

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

WATERSHED PLAN

AND

ENVIRONMENTAL IMPACT STATEMENT

FOR

WATERSHED PROTECTION, FLOOD

PREVENTION, MUNICIPAL AND

INDUSTRIAL WATER SUPPLY, AND

RECREATION

DYNNE CREEK



CLEBURNE COUNTY, ALABAMA

AD-33 Bookplate
(1-63)

NATIONAL

**A
G
R
I
C
U
L
T
U
R
A
L**



LIBRARY

ATC 425
D9F6

c. 2

FINAL WATERSHED PLAN AND ENVIRONMENTAL IMPACT STATEMENT

DYNNE CREEK WATERSHED

Cleburne County, Alabama

Prepared Under the Authority of the Watershed Protection and Flood Prevention Act, Public Law 83-566, as amended, (16 USC 1001-1008), and in accordance with Section 102 (2)(C), of the National Environmental Policy Act of 1969, Public Law 91-190, as amended (42 USC 4321 et seq.).

Prepared By

Dynne Creek Watershed Conservancy District

Cleburne County Soil and Water Conservation District

Cleburne County Commission

With Assistance By

U. S. Department of Agriculture
Soil Conservation Service

U. S. Department of Agriculture
Forest Service

U.S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY

JUN 29 1982

CATALOGING - PREP.

June 1977

ADDENDUM

Dynne Creek Watershed Plan, Alabama

This addendum shows the project costs, benefits, and benefit-cost ratio based on $6 \frac{3}{8}$ percent interest rate, 1976 installation costs, and current normalized prices for agricultural commodities. Annual project costs, benefits and benefit-cost ratio are as follows:

1. Project costs are \$124,700.
2. Project benefits are \$182,100.
3. The project benefit-cost ratio is 1.5:1.0.

PREFACE

Enclosed are two documents--the Watershed Plan and Environmental Impact Statement for Dynne Creek Watershed, Alabama. All information and data, except as otherwise noted, were collected during watershed planning investigations by the Soil Conservation Service and the U. S. Forest Service, USDA. References cited are listed in appendix 1.

The Watershed Plan has been developed by the local sponsors with the assistance of the U. S. Department of Agriculture and is the basis for the authorization of federal assistance to implement the proposed project in accordance with the Watershed Protection and Flood Prevention Act, Public Law 83-566, as amended (16 USC 1001-1008).

The Environmental Impact Statement has been prepared by the U. S. Department of Agriculture in compliance with Section 102(2)(C) of the National Environmental Policy Act of 1969, Public Law 91-190, as amended (42 USC 4321 et seq.).

The Environmental Impact Statement contains the detailed information on project area, planned project, problems, impacts, alternatives, etc.

TABLE OF CONTENTS

PART I

FINAL PLAN

	<u>PAGE</u>
SUMMARY AND DESCRIPTION.....	P-1
PLANNED PROJECT.....	P-3
INSTALLATION COSTS - MONETARY.....	P-4
ECONOMIC BENEFITS.....	P-7
INSTALLATION AND FINANCING.....	P-9
Installation.....	P-9
Financing.....	P-11
OPERATION, MAINTENANCE, AND REPLACEMENT.....	P-12
WATERSHED PLAN AGREEMENT.....	P-14
TABLES	
Table 1 - Estimated Installation Cost.....	P-21
Table 1A- Status of Watershed Works of Improvement.....	P-22
Table 2 - Estimated Cost Distribution.....	P-23
Table 2A- Cost Allocation and Cost Sharing Summary.....	P-24
Table 2B- Recreational Facilities.....	P-25
Table 3 - Structure Data.....	P-27
Table 4 - Annual Cost.....	P-29
Table 5 - Estimated Average Annual Flood Damage Reduction Benefits.....	P-30
Table 6 - Comparison of Benefits and Costs.....	P-31

PART II

FINAL ENVIRONMENTAL IMPACT STATEMENT

	<u>PAGE</u>
SUMMARY.....	E-I
AUTHORITY.....	E-3
SPONSORING LOCAL ORGANIZATIONS.....	E-3
PROJECT OBJECTIVES.....	E-4
PLANNED PROJECT.....	E-6
Land Treatment Measures.....	E-6
Structural Measures.....	E-9
Operation, Maintenance, and Replacement.....	E-13
Project Costs.....	E-14
ENVIRONMENTAL SETTING.....	E-16
Physical Resources.....	E-16
Soils, and Land Capabilities.....	E-16
Geology and Topography.....	E-17
Climate.....	E-17
Mineral and Ground Water Resources.....	E-18
Land Use.....	E-18
Surface Water Resources.....	E-19
Present and Projected Population.....	E-22
Economic Resources.....	E-22
Plant Resources.....	E-24
Forest.....	E-24
Cropland.....	E-25
Pastureland.....	E-25
Idle Lands.....	E-26
Animal Resources.....	E-26
Recreational Resources.....	E-27
Archaeological, Historical and Unique Scenic Resources.....	E-27
Soil, Water and Plant Management Status.....	E-28
Projects of Other Agencies.....	E-29

	<u>PAGE</u>
WATER AND RELATED LAND RESOURCE PROBLEMS.....	E-30
Land and Water Management.....	E-30
Floodwater Damage.....	E-31
Erosion Damage.....	E-33
Sediment Damage.....	E-34
Drainage Problems.....	E-34
Municipal and Industrial Water Problems.....	E-35
Recreation Problems.....	E-35
Plant and Animal Problems.....	E-36
Water Quality Problems.....	E-36
Economic and Social Problems.....	E-37
RELATIONSHIP TO LAND USE PLANS, POLICIES, AND CONTROLS.....	E-38
ENVIRONMENTAL IMPACT.....	E-39
Conservation Land Treatment.....	E-39
Structural Measures.....	E-41
Economic and Social.....	E-44
Favorable Environmental Impacts.....	E-46
Adverse Environmental Impacts.....	E-46
ALTERNATIVES.....	E-48
SHORT-TERM VS. LONG-TERM USES OF RESOURCES.....	E-49
IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES.....	E-50
CONSULTATION AND REVIEW WITH APPROPRIATE AGENCIES AND OTHERS	
General.....	E-51
Discussion and Disposition of Each Comment on the Draft EIS	E-52
SIGNATURE BLOCK.....	E-54
LIST OF APPENDICES.....	E-62
Appendix A - Display Accounts for Selected Alterna- tive - Table A Summary Comparison of Alternative Plans - Table B	
Appendix B - Project Map	
Appendix B-1 - Recreational Development Map	
Appendix C - Letters of Comment on Draft Document	
Appendix D - Soil Association Map	
Appendix E - Land Use Map	
Appendix F - Critical Area Map	
Appendix G - Historical and Archaeological Survey of Dynne Creek Watershed	
Appendix H - Section of Typical Floodwater Retarding Structure	
Appendix I - Literature Cited	

WATERSHED PLAN

DYNNE CREEK WATERSHED

Cleburne County, Alabama

DYNNE CREEK WATERSHED PLAN

CLEBURNE COUNTY, ALABAMA

SUMMARY AND DESCRIPTION

Dynne Creek Watershed encompasses 16,600 acres and is located in the south-central portion of Cleburne County, Alabama (see appendix B-2).

The local sponsoring organizations are the Dynne Creek Watershed Conservancy District, the Cleburne County Commission, and the Cleburne County Soil and Water Conservation District.

The major soil and water problems in the watershed are floodwater damages to 866 acres of flood plain, sediment deposition on 105 acres of flood plain during flood flows, flood plain erosion or scour on 83 acres due to out-of-bank flow, sheet erosion in the upland areas, and critical erosion on about 32 acres of roadbanks. The estimated average annual floodwater, sediment, erosion, and indirect damages total \$24,260 at current normalized prices.

The Dynne Creek Watershed Plan proposes a project for watershed protection, flood prevention, municipal and industrial (M&I) water supply, and water-based recreation. Conservation land treatment practices are planned to provide watershed protection. Two single purpose structures and one multipurpose structure will provide floodwater retardation. A multipurpose structure (structure No. 4 on the project map, Appendix B), will provide M&I and recreational water storage. Basic recreational facilities are also planned at structure No. 4.

Accelerated conservation land treatment will adequately protect much of the watershed area and will reduce sediment yield by 27 percent. Land treatment will reduce runoff by an estimated 5 percent and will enhance watershed aesthetic qualities. Floodwater retarding structures will reduce average annual flood damages by 69 percent on 866 acres of flood plain land. The structural measures in combination with land treatment will reduce sediment yield by 40 percent.

Structure No. 4 will provide a water supply for expanding industries and an increasing population. Structure No. 4 will also satisfy an increasing demand for water-based recreational activities.

Installation of this project will result in the loss of 161 acres of wildlife habitat, increased sediment in streams during construction, a slight increase in stream temperatures below impoundments, and the clearing of 47 acres of flood plain forest land for crops and pasture.

Conservation land treatment will be installed throughout the watershed within a 5-year period at a total cost of \$218,930. The planned structures, as shown on the project map, will be installed within a 5-year period at a total cost of \$1,723,800. Total project installation cost is estimated to be \$1,916,400 (see table 1).

Total estimated average annual NED benefits derived from the installation of project measures are estimated to be \$181,200. Average annual cost based on 6 1/8 percent interest is \$121,500 (see table 4), resulting in a benefit-cost ratio of 1.5:1.0 (see table 6).

Conservation land treatment measures will be installed, financed, and maintained by the land owners. Accelerated technical assistance will be provided by the Soil Conservation Service (SCS), through the Cleburne County Soil and Water Conservation District, and the Alabama Forestry Commission in cooperation with the U. S. Forest Service using PL-566 funds. Structural measures will be financed by PL-566 and other funds (see table 2A) and will be maintained by the local sponsoring organizations. An operation and maintenance plan will be developed to assure the proper functioning of all structural measures. The estimated average annual cost of operation and maintenance is \$15,600 and includes \$13,600 for operation, maintenance, and replacement of recreational facilities.

PLANNED PROJECT

Conservation plans will be developed for individual farms and will detail the land treatment measures needed on each farm. These plans provide for accelerated technical assistance to land users, through the Soil and Water Conservation Districts (S&WCD's) to assist in planning and application of land treatment measures. Accelerated conservation land treatment goals are for 300 acres of cropland, 365 acres of pasture-land, 1,410 acres of forest land, and 47 acres of other land to be adequately treated during the 5-year project installation period. Planned measures consist of conservation cropping systems, contour farming, critical area planting, crop residue management, drainage mains and laterals, pasture and hayland management, pasture and hayland planting, forest stand release, forest improvement cutting, tree planting, wildlife upland habitat management, field borders, grassed waterways, and ponds (see table 1A for status of conservation land treatment measures already applied.)

Treatment of 32 acres of critical areas will be a cooperative effort between the SCS and local sponsors. SCS will provide technical assistance for planning and applying the treatment and funds for contracting the vegetative work. The local sponsors will furnish labor and equipment for the shaping and grading. For needed follow-up treatment, SCS will provide the necessary materials and the sponsors will provide labor and equipment. About 70 percent of the roads in the watershed are paved and critical areas will be treated along the paved roads.

Structural measures consisting of two single-purpose floodwater retarding structures (structures Nos. 1 and 3) and one multipurpose structure (structure No. 4) are planned for installation (see Appendix B). These structures will provide protection to the flood plain lands downstream of the structures by reducing flooding and sediment deposition. In addition to flood protection, multipurpose structure No. 4 will provide municipal and industrial water storage to satisfy the needs of Cleburne County. Also, a day-use recreation area will be developed adjacent to structure No. 4 (see table 2B and Appendix B-1). This development, coupled with the 127 acre lake, will provide for fishing, boating, picnicking, and other related activities to partially fulfill recreation demands for residents of the surrounding area. For details of the planned structures and the method of installation, see the environmental impact statement, "Planned Project" section.

INSTALLATION COSTS - MONETARY

The installation cost for conservation land treatment consists of the going program and the accelerated program.

The total cost of the "going program" is \$26,330. The costs for establishing conservation practices are \$5,230 for cropland, \$7,220 for pastureland, \$13,130 for forest land, and \$250 for other lands. These costs will be borne by the land users with some financial assistance from the present going Agricultural Conservation Program. The cost for technical assistance is \$2,500 which will be funded by the present going land treatment programs of the SCS.

The total estimated installation cost of the accelerated conservation land treatment program is \$192,600. This includes a cost for design, lay-out, and construction of the proposed land treatment measures. Some measures require no construction but do require a change in cultural practices. A cost for time and labor has been included for the changes in cultural practices. The technical assistance cost is for the Soil Conservation Service and the Alabama Forestry Commission assisting landowners with the planning and application of conservation land treatment measures (see table 1 and 1A).

The costs for establishing these accelerated conservation land treatment measures are \$19,440 on cropland, \$43,320 on pastureland, \$33,900 on forest land, and \$840 on other lands. These costs will be borne by the land users with some financial assistance from the present going Agricultural Conservation Program. The cost for accelerated fire control is \$5,600, of which \$2,000 will be from P. L. 566 funds; \$2,000 from the Alabama Forestry Commission, and \$1,600 from the Cooperative Fire Protection Program through the U. S. Forest Service. The total costs for accelerated technical assistance is \$32,800. The technical assistance cost consists of \$28,500 from P. L. 566 funds, of which \$22,900 will be used through the Soil and Water Conservation District for planning and installation of conservation treatment measures and treatment of critical areas. PL-566 funds amounting to \$5,600 will be provided to the Alabama Forestry Commission through the U. S. Forest Service to carry out conservation practices on forest land. The Alabama Forestry Commission will provide an additional \$1,800 as their share of the technical assistance to carry out the forestry work.

The critical area treatment will be by division of work. SCS will provide technical assistance for applying the land treatment and \$31,300 from P. L. 566 funds for contracting the initial vegetation work and purchase of materials for remedial work. The sponsors will do necessary shaping and smoothing for the critical area treatment and will provide labor and equipment for remedial work. The sponsors' portion of the division of work is valued at \$25,400.

The estimated construction costs of the three structures and recreational facilities are as follows:

<u>Item</u>	<u>Construction Cost</u>
Floodwater Retarding Structure No. 1	\$212,600
Floodwater Retarding Structure No. 3	\$194,800
Multipurpose Structure No. 4	\$660,500
Recreational Facilities	\$249,500
Total	<u>\$1,317,400</u>

No costs are included for the M&I water withdrawal facility. These costs, which will be included with the treatment plant and distribution system cost, are independent of the multipurpose structure and must be borne 100% by the sponsors.

Construction cost of the dams includes land clearing, excavating spillways, embankment fill, etc. Construction cost of the recreational facilities includes labor, materials, land preparation, road paving, etc.

Engineering services are estimated to cost \$79,800. This includes costs for field surveys, detailed designs, architectural and engineering services for design of multipurpose structure No. 4 and associated recreation facilities, and engineering inspection services during construction.

Administrative costs of \$193,000 include record keeping, contract administration, travel, and advisory services.

Land rights are valued at \$133,600. This includes a value of \$24,600 for 57 acres needed for the two single-purpose floodwater retarding structures, \$90,000 for 257 acres for the multipurpose structure, and \$17,500 for 50 acres needed for the recreational facilities (see table 2). A cost of \$1,500 is included for surveys, legal fees, flowage easements, etc.

For more detailed information see tables 1, 2, 2A, and 2B.

The "SCRB Method" was used to allocate costs to purpose. A summary of cost allocation & cost sharing for the watershed can be found on Table 2A. The cost of the recreational facilities along with associated engineering services, were considered specific costs and were allocated to the purposes of recreation & municipal water supply respectively. Also, the cost of purchasing 50 acres of additional land needed to install the recreational facilities was considered a specific cost of recreation. The remainder of the costs were considered joint costs. The following tabulation shows the allocation of specific and joint costs by purpose:

	<u>Flood Prevention</u>	<u>Recreation</u>	<u>M&I Water</u>	<u>Total</u>
Construction				
Structure	\$108,700	\$117,400	\$434,400	\$660,500
Rec. facilities	0	249,500	0	249,500
Engineering				
Structure	6,400	7,300	26,300	40,000
Rec. facilities	0	15,000	0	15,000
Land Rights				
Structure	1,500	66,600	23,400	91,500
Rec. facilities	<u>0</u>	<u>17,500</u>	<u>0</u>	<u>17,500</u>
Total	\$116,600	\$473,300	\$484,100	\$1,074,000

The total installation cost of the structural measures is \$1,723,800.
The total estimated cost of the project is \$1,942,730 (see table 1).
Cost-sharing rates are shown in the "Watershed Plan Agreement."

ECONOMIC BENEFITS

The average annual flood damage reduction benefits total \$16,600. Reduction in the depth and frequency of flooding on 866 acres of flood plain will result in \$7,200 crop and pasture benefits and \$3,900 in agri-land fixed improvements. Road and bridge damages will be reduced by \$2,600. Sediment deposition in the flood plain will be reduced by 60 percent, resulting in \$350 in average annual benefits. Reduction of 83 acres of flood plain scour damages will result in \$450 in average annual benefits. Indirect benefits for floodwater reduction are estimated to be \$2,100 from the reduced re-routing of traffic and delayed mail delivery.

As flood protection is realized, the use of some land that is now marginal or unproductive will change to productive agriculture. Also, farmers will apply more intensive land use practices. Average annual benefits from changes in agricultural land use are estimated to be \$11,700. Average annual benefits resulting from more intensive land use are estimated to be \$12,900 (see table 6).

Municipal and industrial water storage at structure No. 4 will provide an estimated average annual benefit of \$61,700. Recreational water storage with basic recreational facilities will provide an average annual benefit of \$50,000 in recreational activities.

Redevelopment benefits for providing employment to the unemployed or underemployed are expected to average \$28,300 annually. The local economy will benefit from the value of local labor, services, and materials used in project installation and maintenance.

The net effect of the project on regional externalities is estimated to be \$138,000 annually. These benefits result from economic activity stimulated by production, utilization, and disposition of intermediate goods or services by the project. Regional externalities were not used for project justification.

Average annual benefits are estimated as follows:

<u>ITEM</u>	<u>AVERAGE ANNUAL BENEFIT</u>
Flood Prevention	\$ 69,500
M&I Water Supply	61,700
Recreation	<u>50,000</u>
Total	\$181,200

Total average annual benefits from structural measures are estimated to be \$181,200, while average annual costs will be about \$121,500. This gives a benefit-cost ratio of 1.5:1.0 (see table 6).

INSTALLATION AND FINANCING

INSTALLATION

It is expected that landowners will establish the planned conservation land treatment measures on their land within the 5-year installation period in cooperation with the Cleburne County Soil and Water Conservation District (District). The District will provide technical assistance for the planning, application, and maintenance of land treatment measures. The SCS, using PL-566 funds, will supplement the technical assistance provided under the going district program. This additional technical assistance will accelerate planning, and will expedite the application of conservation land treatment measures.

Critical area treatment work will be installed using a division of work arrangement. The value of work which the SCS will perform will not exceed cost sharing rates for such practices applicable under other cost programs.

The Alabama Forestry Commission, in cooperation with the U. S. Forest Service, will provide technical assistance in the planning and application of forest land treatment measures. They will provide additional technical assistance for fire control. A one-half ton pick-up truck with fire suppression equipment will be provided as part of the fire control program.

Structural measures will be installed during a 5-year installation period by formal contract. Multipurpose structure No. 4 will be installed prior to the installation of floodwater retarding structures Nos. 1 and 3 (see table 3).

The Dynne Creek Watershed Conservancy District will acquire all necessary land rights for installation of structures Nos. 1 and 3. The Cleburne County Commission will be responsible for multipurpose structure No. 4 and will be assisted by the Dynne Creek Watershed Conservancy District in acquiring land rights. The Conservancy District will also assist in arranging for the modification of any utility lines, roads, etc., needed to install the structural measures. Powers granted by the State, including the power of eminent domain, will be used if necessary to obtain the necessary land rights. All necessary land rights will be acquired for each structure site before PL-566 funds are made available for construction of the structure.

The Cleburne County Commission will serve as the local contracting organization during project installation. The SCS will prepare plans, specifications and cost estimates; provide construction inspection; and

cooperate in the final inspection of the single-purpose floodwater retarding structures and critical area treatment. Final layout and design of the recreational facilities will be prepared through contractual arrangements with an architectural and engineering firm.

The Cleburne County Commission will retain a private engineer, approved by the Soil Conservation Service, to design and prepare plans and specifications for multipurpose structure No. 4. Construction surveys and construction inspection of structure No. 4 will be performed by the SCS. The Cleburne County Commission will perform the construction inspection necessary for installing the municipal water components of the structure.

The SCS will, as a part of project administration, assist the Conservancy District in fulfilling its responsibilities in carrying out the requirements of the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, Public Law 91-646. No relocations are anticipated as a result of the project.

As required by Public Law 93-291, the SCS will notify the Secretary of the Interior if any archaeological materials are found during construction. No cultural or archaeological sites are expected to be affected by the project.

Federal assistance for installing the works of improvement on nonfederal land, as described in this work plan, will be provided under the authority of the Watershed Protection and Flood Prevention Act (Public Law 566, 83rd Congress; 68 Stat. 666), as amended. This assistance is contingent on the appropriation of funds for this purpose and the sponsoring local organizations meeting their necessary prior obligations.

Structural measures will be installed pursuant to the following conditions:

1. All land rights have been acquired.
2. PL-566 funds are available.
3. Project agreements have been signed.
4. Operation and maintenance agreements have been signed.

FINANCING

Federal assistance for carrying out the works of improvement described in this plan will be provided under the authority of the Watershed Protection and Flood Prevention Act (PL-566 83rd Congress 68 Statute 666) as amended.

The land treatment measures will be installed and financed by the land users. Cost sharing assistance under programs administered by the Agricultural Stabilization and Conservation Service is available for applying certain conservation land treatment measures. PL-566 funds will finance the accelerated technical assistance provided in applying the land treatment measures.

The Cleburne County Commission will provide the "other" funds associated with the structural measures by county revenues. The County has received a community development block grant, which is administered by HUD, to help secure the land rights for multi-purpose structure No. 4. The County has also filed a pre-application to the Farmers Home Administration for a loan to help finance the installation of the structural measures. The interest rate for any money borrowed will be the prevailing rate at the time the loan is obtained. Cost sharing arrangements are described in the "Watershed Plan Agreement".

Prior to entering into agreements that obligate funds of the SCS, the Cleburne County Commission will develop a code of conduct governing the performance of its officers, employees, or agents in contracting with or expending PL-566 funds; and a financial management system for control, accountability, and disclosure of PL-566 funds received and for control and accountability for property and other assets purchased with PL-566 funds.

Program income earned during the grant period will be reported on the sponsor's request for advance or reimbursement from the SCS. The total estimated PL-566 and "other" costs to be obligated by year during the 5-year installation period are as follows:

Year	Public Law 566		Other Funds		Total
	Land Treatment	Structural Measures	Land Treatment*	Structural Measures	
1	13,000	254,000	32,000	590,000	889,000
2	13,000	165,100	32,000	163,200	373,300
3	13,000	265,500	32,000	15,000	325,500
4	13,000	246,000	32,000	25,000	316,000
5	9,800	None	29,130	None	38,930
Total	\$61,800	\$930,600	\$157,130	\$793,200	\$1,942,730

*Includes going land treatment program.

OPERATION, MAINTENANCE, AND REPLACEMENT

Land treatment measures will be maintained by landowners under the cooperative agreements with the Cleburne County Soil and Water Conservation District. The SCS will provide technical assistance through the District for operation and maintenance of land treatment measures. The Alabama Forestry Commission, in cooperation with the U. S. Forest Service will maintain the fire equipment and will furnish technical assistance necessary for operating and maintaining the forest land treatment measures under going cooperative programs.

The Cleburne County Commission will be responsible for operation and maintenance of the critical area treatment. Technical assistance will be provided by the SCS. An operation and maintenance agreement will be developed for maintaining the critical area treatment.

The Cleburne County Commission will be responsible for and promptly perform, or have performed, without cost to the SCS, all maintenance of the structural measures as determined to be needed by either the sponsors or the SCS immediately following completion of the structures by the contractor.

The estimated average annual cost of operation and maintenance is \$15,600 and includes \$4,850 for replacement of recreational facilities. Operation and maintenance work will normally include such action as removing rubbish from the park, repairing recreational facilities, and maintaining adequate vegetative cover to prevent site deterioration. This will include fertilization, periodic irrigation during drought periods, and/or selective sodding, sprigging, or seeding in heavy use areas. Comfort stations will be cleaned and inspected periodically to insure proper functioning and meeting of sanitary requirements. Maintenance will be financed by the Cleburne County Commission. A user fee may be charged by the Commission to help offset operation, maintenance, and replacement costs of the recreational facilities.

The water supply of multipurpose structure No. 4 will be monitored by the State Health Department to insure good water quality.

The sponsors will see that operation and maintenance is performed in a timely, adequate, and otherwise appropriate manner to assure efficient operation and functioning of the structures for the life of the project.

The sponsors will maintain vegetation associated with structural measures beginning immediately after the SCS determines that the initial vegetative work is adequate, but no later than three years following completion of each structural measure. Maintenance of the floodwater retarding structures will consist of, but not be limited to, items such as controlling undesirable vegetation by mowing, hand cutting, or using herbicides; painting metal parts; repairing gates and trash racks; and repairing eroded areas.

The mowing operations for the most part will be done with a farm-type tractor and shredder. Use of herbicides will be in accordance with state regulations.

Annual inspections will be performed and documented by a responsible official of the County, preferably accompanied by a landowner actively farming within the project area. The inspection will be made in late spring or early summer so that needed maintenance can be completed before the rainy season. More frequent inspections may be required when unusually severe storms occur. These inspections will help identify problems early and prevent other storms from compounding the problem. The SCS will participate in the inspections in the first three years and thereafter as deemed necessary.

An operation and maintenance (O&M) agreement will be entered into by the sponsors and SCS prior to signing a land rights, relocation, or project agreement. The O&M agreement will contain, in addition to specific sponsor responsibilities for structural measures, specific provisions for retention and disposal of real and personal property acquired in whole or in part with PL-566 funds. The O&M agreement will also contain a reference to the State Watersheds Operation and Maintenance Handbook. A plan for O&M will be prepared for each structural measure.

AGREEMENT

between the following local organizations

DYNNE CREEK WATERSHED CONSERVANCY DISTRICT

CLEBURNE COUNTY SOIL AND WATER CONSERVATION DISTRICT

CLEBURNE COUNTY COMMISSION

(referred to herein as Sponsors)

STATE OF ALABAMA

and the

SOIL CONSERVATION SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

(referred to herein as SCS)

Whereas, application has heretofore been made to the Secretary of Agriculture by local organizations for assistance in preparing a plan for works of improvement for the Dynne Creek Watershed, State of Alabama, under the authority of the Watershed Protection and Flood Prevention Act (16 U.S.C. 1001-1008); and

Whereas, the responsibility for administration of the Watershed Protection and Flood Prevention Act, as amended, has been assigned by the Secretary of Agriculture to the SCS; and

Whereas, there has been developed through the cooperative efforts of local organizations and SCS this plan for works of improvement for the Dynne Creek Watershed, State of Alabama:

Now, therefore, in view of the foregoing considerations, the Secretary of Agriculture, through the SCS and the sponsors hereby agree on this plan and that the works of improvement for this project will be installed, operated, and maintained in accordance with the terms, conditions, and stipulations provided for in this watershed plan and including the following:

1. The Sponsors will acquire such land rights as will be needed in connection with the works of improvement. The percentages of this cost to be borne by the Sponsors and the SCS are as follows:

<u>Works of Improvement</u>	<u>Sponsors (percent)</u>	<u>SCS (percent)</u>	<u>Estimated Land Rights Costs</u>
---------------------------------	-------------------------------	--------------------------	--

Multipurpose
Structure No. 4
and Recreational
Facilities

Payment to land- owners for about 307 acres	61	39	\$107,500
---	----	----	-----------

Legal Fees, Survey Costs, Flowage Ease- ments, and Other	100	0	\$ 1,500
--	-----	---	----------

All Other Structural Measures	100	0	\$ 24,600
----------------------------------	-----	---	-----------

The sponsors agree that all land acquired by or improved with PL-566 financial or credit assistance will not be sold or otherwise disposed of for the evaluated life of the project except to a public agency which will continue to maintain and operate the development in accordance with the operation and maintenance agreement.

- The sponsors assure that comparable replacement dwellings will be available for individuals and persons displaced from dwellings, and will provide relocation assistance, make the relocation payments to displaced persons, and otherwise comply with the real property acquisition policies contained in the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646, 84 Stat. 1894) effective as of January 2, 1971, and the Regulations issued by the Secretary of Agriculture pursuant thereto. The costs of relocation payments will be shared by the Sponsoring Local Organization and SCS as follows:

	<u>Sponsors (Percent)</u>	<u>SCS (Percent)</u>	<u>Estimated Relocation Payment Costs (Dollar)</u>
Relocation Payments	48.2	51.8	0.0 <u>1/</u>

1/ Investigation has disclosed that under present conditions the project measures will not result in the displacement of any person, business or farm operation. However, if relocations become necessary, relocation payments will be cost-shared in accordance with the percentages shown.

3. The sponsors will acquire or provide assurance that landowners or water users have acquired such water rights pursuant to state law as may be needed in the installation and operation of the works of improvement.
4. The percentages of construction costs to be paid by the Sponsors and by SCS are as follows:

Works Of Improvement	Sponsors (Percent)	SCS (Percent)	Estimated Construction Cost (Dollars)
Structures Nos. 1 & 3	0.0	100.0	407,400
Structure No. 4 (Multipurpose)	75.0	25.0	660,500
Recreation Facilities	50.0	50.0	249,500
Critical Area Treatment - Treatment of critical areas will be a cooperative effort. SCS will provide technical assistance for planning and applying the treatment and funds for contracting the vegetative work. The local sponsors will do the shaping and grading. For needed follow-up treatment, SCS will provide the necessary materials and the sponsors will provide labor and equipment.			56,700

5. The percentages of the engineering costs to be borne by the Sponsors and SCS are as follows:

Works Of Improvement	Sponsors (Percent)	SCS (Percent)	Estimated Engineering Cost (Dollars)
Structures Nos. 1 & 3	0	100	24,800
Structure No. 4 (Multipurpose)	65	35	40,000
Recreation Facilities	50	50	15,000

6. The Sponsors and SCS will each bear the costs of Project Administration which it incurs, estimated to be \$50,000 and \$143,000 respectively.
7. The sponsors will obtain agreements from owners of not less than 50 percent of the land above each reservoir and floodwater retarding structure that they will carry out conservation farm or ranch plans on their land.
8. The sponsors will provide assistance to landowners and operators to assure the installation of the land treatment measures shown in the watershed plan.
9. The sponsors will encourage landowners and operators to operate and maintain the land treatment measures for the protection and improvement of the watershed.
10. The sponsors will be responsible for the operation, maintenance, and replacement of the works of improvement by actually performing the work or arranging for such work in accordance with agreements to be entered into prior to issuing invitations to bid for construction work.
11. The costs shown in this plan represent preliminary estimates. In finally determining the costs to be borne by the parties hereto, the actual costs incurred in the installation of works of improvement will be used.
12. This agreement is not a fund obligating document. Financial and other assistance to be furnished by SCS in carrying out the plan is contingent upon the fulfillment of applicable laws and regulations and the availability of appropriations for this purpose.
13. A separate agreement will be entered into between SCS and sponsors before either party initiates work involving funds of the other party. Such agreements will set forth in detail the financial and working arrangements and other conditions that are applicable to the specific works of improvement.
14. This plan may be amended, revised, or terminated only by mutual agreement of the parties hereto except that SCS may terminate financial and other assistance in whole, or in part, at any time it determines that the sponsor has failed to comply with the conditions of this agreement. In this case, SCS shall promptly notify the sponsor in writing of the determination and the reasons for the termination, together with the effective date. Payments made to the sponsor or recoveries by SCS under projects terminated shall be in accord with the legal rights and liabilities of the parties.

15. No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this plan, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.
16. The program conducted will be in compliance with all requirements respecting nondiscrimination as contained in the Civil Rights Act of 1964, as amended, and the regulations of the Secretary of Agriculture (7 CFR 15.1-15.12), which provide that no person in the United States shall, on the ground of race, color or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any activity receiving federal financial assistance.

Dynne Creek Watershed Conservancy District

By

A. R. McLeroy

Title Chairman

Route 3, Heflin, Alabama 36264
Address Zip Code

Date JUL 6 1977

The signing of this plan was authorized by a resolution of the governing body of the Dynne Creek Watershed Conservancy District adopted at a meeting held on June 30, 1977.

Forrest Turner
Forrest Turner
Secretary

Route 3, Heflin, Ala. 36264
Address Zip Code

Date JUL 6 1977

Cleburne County Soil & Water
Conservation District

By

Percy Owen
Percy Owen

Title Chairman

Route 1, Ranburne, Alabama 36273
Address Zip Code

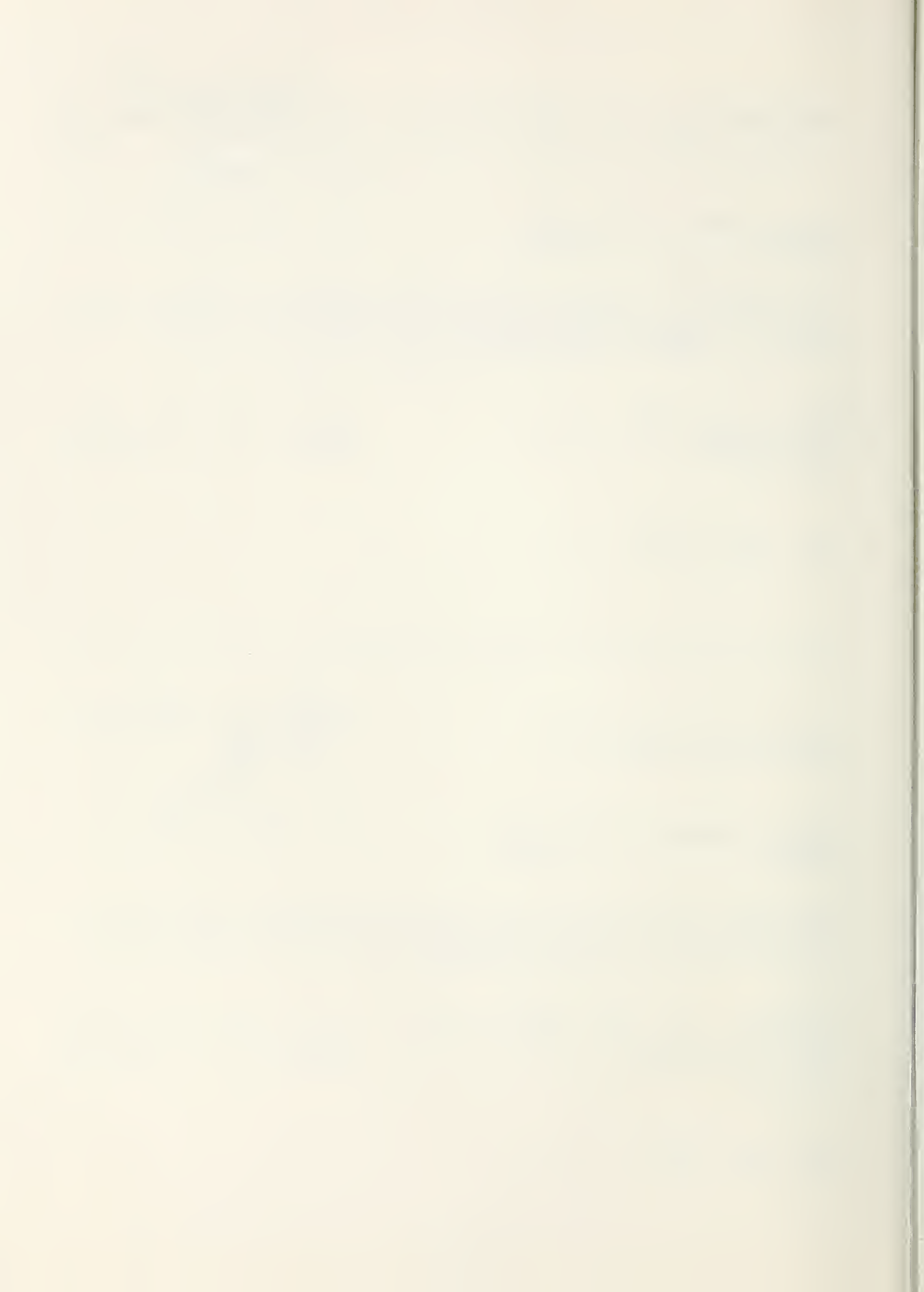
Date JUL 6 1977

The signing of this plan was authorized by a resolution of the governing body of the Cleburne County Soil & Water Conservation District adopted at a meeting held on July 1, 1977.

Mrs. C. L. Houston
Mrs. C. L. Houston
Secretary

Route 3, Heflin, Ala. 36264
Address Zip Code

Date JUL 6 1977



Cleburne County Commission

Cleburne County Courthouse,
Heflin, Alabama 36264
Address Zip Code

By Horace S. Merrill
Judge Horace S. Merrill

Title Chairman

Date JUL 6 1977

The signing of this plan was authorized by a resolution of the governing
body of the Cleburne County Commission adopted at a meeting held on May 9, 1977.

Travis Ballenger
Travis Ballenger
Secretary

Cleburne County Courthouse,
Heflin, Alabama 36264
Address Zip Code

Date JUL 6 1977

Appropriate and careful consideration has been given to the environmental
statement prepared for this project and to the environmental aspects
thereof.

Soil Conservation Service

United States Department of Agriculture

Approved By: W B Lingle
W. B. Lingle
State Conservationist

JUL 7 1977

Date _____

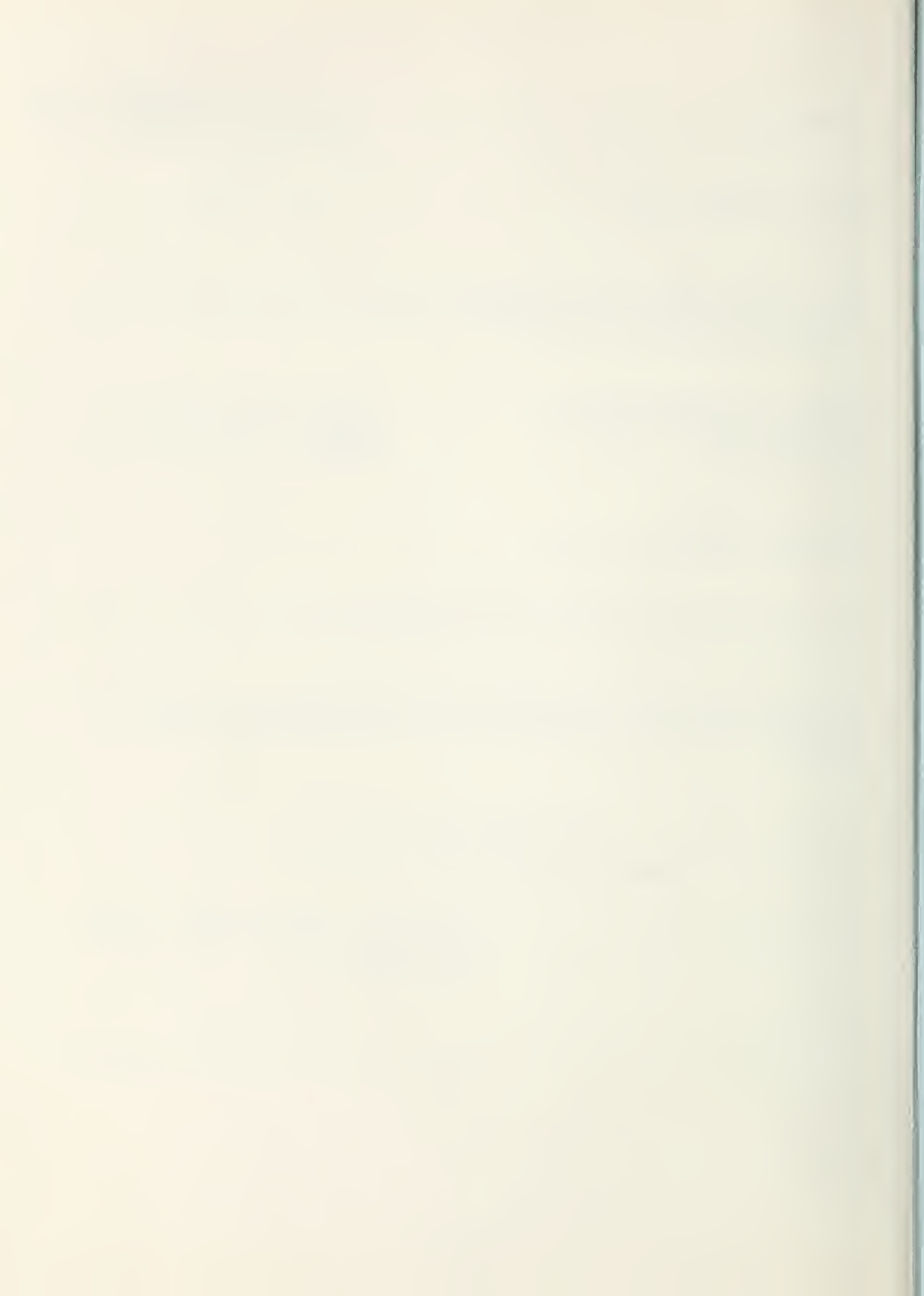


TABLE 1 - ESTIMATED INSTALLATION COST
Dyner Creek Watershed, Alabama

Installation Cost Item	Unit	Number	Estimated Cost (Dollars) 1/					
			P. L. 566 Funds			Other		
			SCS 5/	FS 3/	Total	SCS 5/	FS 3/	Total
LAND TREATMENT - GOING PROGRAM	Acres to be Treated							
Land Areas 2/		50				3,230		3,230
Cropland		60				7,220		7,220
Pastureland		775				13,130		13,130
Forest Land		5				250		250
Other Land								
Technical Assistance						2,500		2,500
SUBTOTAL		890				13,200	13,130	26,330
LAND TREATMENT - ACCELERATED	Acres to be Treated							
Land Areas 2/		300				19,440		19,440
Cropland		365				43,320		43,320
Pastureland		1,410				33,900		33,900
Forest Land		15				840		840
Other Land								
Fire Control				2,000	2,000		3,600	5,600
Critical Area Stabilization	AC.	32	31,500		31,500	25,400		56,700
Technical Assistance			22,800	5,600	28,500		1,800	32,800
SUBTOTAL		2,122	54,200	7,600	61,800	91,500	39,300	130,800
TOTAL LAND TREATMENT		5,012	54,200	7,600	61,800	104,700	52,430	218,930
STRUCTURAL MEASURES								
Floodwater Retarding Structures	No.	2	432,000		432,000	24,600		456,600
Multiple Purpose Structure	No.	1	214,400		214,400	577,600		792,000
Recreation Facilities	No.	1	141,000		141,000	141,000		282,000
SUBTOTAL - Structural Costs			587,600		587,600	745,200		1,530,800
PROJECT ADMINISTRATION								
Construction Inspection			90,000		90,000	50,000		120,000
Other			55,000		55,000	20,000		75,000
SUBTOTAL - Administration			145,000		145,000	50,000		195,000
TOTAL PROJECT COSTS 4/			984,500	7,600	992,400	884,700	59,300	1,916,400
TOTAL ALL COSTS			984,500	7,600	992,400	897,900	52,430	1,942,730

1/ Price base 1976.

2/ Includes only areas estimated to be adequately treated during the project installation period. Treatment will be applied throughout the watershed and dollar amounts apply to total areas not just to adequately treated areas.

3/ Federal agency responsible for assisting in installation.

4/ Excludes going program - Land Treatment

June 1977

TABLE 1A - STATUS OF WATERSHED WORKS OF IMPROVEMENT
(at Time of Plan Preparation)

Dyenne Creek Watershed, Alabama

Measures	Unit	Applied To Date	Total ^{1/} Cost (Dollars)
<u>LAND TREATMENT</u>			
Conservation cropping system	Ac.	250	\$8,750
Contour farming	Ac.	-	-
Crop residue use	Ac.	312	624
Drainage field ditches	Ft.	1,500	450
Drainage mains and laterals	Ft.	11,000	6,600
Field border	Ft.	0	-
Grassed waterways and outlets	Ac.	0	-
Land smoothing	Ac.	50	2,000
Ponds	No.	5	7,500
Pasture and hayland management	Ac.	570	14,250
Pasture and hayland planting	Ac.	920	69,000
Terracing	Ft.	11,000	550
Forest improvement	Ac.	0	-
Forest improvement cutting	Ac.	5,600	56,000
Tree planting	Ac.	1,102	37,470
Site preparation	Ac.	1,005	40,200
Fire breaks	Ft.	5,650	565
TOTAL	XXX	XXX	\$243,959
AREA ADEQUATELY PROTECTED	Acre	13,821	XXXXX

^{1/} Base Price 1976.

June 1977



TABLE 2 - ESTIMATED COST DISTRIBUTION

Dynne Creek Watershed, Alabama
(Dollars) 1/

Item	Installation Cost PL-566 Funds				Installation Cost-Other Funds				Total Installation Cost
	Construc- tion	Engi- neering	Land Rights	Total	Construc- tion	Engi- neering	Land Rights	Total	
STRUCTURAL MEASURES Floodwater Retarding Structures:									
	212,600	12,800	0	225,400	0	0	9,400	9,400	234,800
	194,800	12,000	0	206,800	0	0	15,200	15,200	222,000
Multipurpose Structure: No. 4	167,400	13,700	33,300	214,400	493,100	26,300	58,200 ^{2/}	577,600	792,000
Recreation Facilities	124,700	7,500 ^{3/}	8,800	141,000	124,800	7,500 ^{3/}	8,700	141,000	282,000
SUBTOTAL-Structural	699,500	46,000	42,100	787,600	617,900	33,800	91,500	743,200	1,530,800
PROJECT ADMINISTRATION	XXX	XXX	XXX	143,000	XXX	XXX	XXX	50,000	193,000
GRAND TOTAL				930,600				793,200	1,723,800

1/ Price base 1976.

2/ Includes \$1,500 for surveys, legal fees, flowage easements, and other costs.

3/ Includes engineering services contract costs to be borne: \$5,000 by PL-566 and \$5,000 by other funds.

June 1977



TABLE 2A - COST ALLOCATION AND COST SHARING SUMMARY

Dynne Creek Watershed, Alabama
(Dollars) 1/

Item	C O S T A L L O C A T I O N				C O S T S H A R I N G							
	P U R P O S E				P L - 5 6 6				O T H E R			
	Flood Prevention	M&I	Recre- ation	Total	Flood Prevention	M&I	Recre- ation	Total	Flood Prevention	M&I	Recre- ation	Total
Structural Measures Floodwater Retarding Structures Nos. 1 & 3	456,800	-	-	456,800	432,200	-	-	432,200	24,600	-	-	24,600
Multipurpose Structure No. 4	116,600	484,100	191,300	792,000	115,100	-	99,300	214,400	1,500	484,100	92,000	577,600
Recreation Facilities	-	-	282,000	282,000	-	-	141,000	141,000	-	-	141,000	141,000
GRAND TOTAL	573,400	484,100	473,300	1,530,800	547,300	-	240,300	787,600	26,100	484,100	233,000	743,200

1/ Price base 1976.

June 1977



TABLE 2B - RECREATIONAL FACILITIES

ESTIMATED CONSTRUCTION COSTS

Dynne Creek Watershed, Alabama

(Dollars)1/

Item	No. 2/	Estimated Unit Cost	Total Construction Cost
<u>Basic Facilities</u>			
concrete picnic tables	40	\$185/Ea	\$ 7,400
metal grills	15	\$75/Ea	1,125
group shelter 26' X 40' with 10 wooden tables and fireplace	1	\$12,000/Unit	12,000
trash receptacles	25	\$50/Unit	1,250
tot lot with fencing and equipment	1	\$5,000/Unit	5,000
boat ramp	1	\$4,000/Unit	4,000
boat dock slips	5	\$500/Ea	2,500
nature trails	2,800'	\$1/L.F.	2,800
fishing pier	1	\$2,000/Ea	2,000
field sports area	1	\$1,500/Ea	1,500
wooden benches	8	\$50/Ea	400
Subtotal			\$39,975
<u>General</u>			
entrance gate	1	\$1,000/Ea	\$1,000
information signs	3	\$100/Ea	300
chain link fence	3,000'	\$3/L.F.	9,000
concrete walk (80 cu. yds)	1,500'	\$150/cu.yd	12,000
clearing underbrush & vegetative treatment	15ac.	\$600/ac	9,000
grading, shaping for basic facilities	100hrs.	\$30/hr	3,000
block sod	400sq.yd	\$5/sq.yd	2,000
recreational area planting	1	\$1,000/Unit	1,000
Subtotal			\$37,300
<u>Roads and Parking</u>			
double-lane paving	4,000'	\$13/L.F.	\$52,000
single-lane paving	1,000'	\$9/L.F.	9,000
curbing	2,000'	\$5/L.F.	10,000
car/trailer spaces	20	\$400/Unit	8,000
car spaces	70	\$300/Unit	21,000
marking for parking flumes (50 cu. yds)	1,000'	\$200/cu.yd	10,000
Subtotal			\$110,000

June 1977

TABLE 2B - RECREATIONAL FACILITIES

ESTIMATED CONSTRUCTION COSTS (Cont'd)

Dynne Creek Watershed, Alabama

(Dollars)1/

Item	No. 2/	Estimated Unit Cost	Total Construction Cost
Water, Electrical & Sanitation Systems			
water supply - well, storage tank, pump	1	\$5,000/Unit	\$5,000
distribution of 2" pipe	1,500'	\$4/L.F.	6,000
water points	3	\$250/Ea	750
security lights	9	300/Ea	2,700
comfort station (300 S.F.) with 6 toilets, 2 urinals, & 4 lavatories	1	\$15,000/Unit	15,000
electrical underground service	3,000'	\$2/L.F.	6,000
Subtotal			\$35,450
TOTAL COST			\$222,725
12% Contingencies			\$26,725
GRAND TOTAL			\$249,450

1/ Price Base 1976.

2/ Estimated quantity, subject to minor variation at time of detailed planning.

June 1977



TABLE 3 - STRUCTURAL DATA
DAMS WITH PLANNED STORAGE CAPACITY
Dynne Creek Watershed, Alabama

Item	Unit	1	3	4	Total
Class of Structure		b	b	b	
Drainage Area	Sq. Mi.	3.21	2.54	7.93	13.68
Runoff Curve No. (1-day) (AMC II)		71	71	71	
Elevation Top of Dam	Ft.	972.0	914.0	942.7	
Elevation Crest Emergency Spillway	Ft.	964.5	909.1	937.6	
Elevation Crest High State Inlet	Ft.	951.6	902.0	931.0	
Elevation Crest Low Stage Inlet	Ft.	937.1	893.9	925.7	
Maximum Height of Dam	Ft.	56.0	30.0	66.7	
Volume of Fill	Cu. Yd.	112,600	93,100	290,000	495,700
Total Capacity <u>1</u> /	Ac. Ft.	828	705	4,678	6,211
Sediment Submerged	Ac. Ft.	109	91	275	475
Sediment Aerated	Ac. Ft.	11	9	24	44
Beneficial Use					
Recreation	Ac. Ft.			415	415
M&I Water	Ac. Ft.			2,055	2,055
Floodwater Retarding Between High and Low Stage	Ac. Ft.	708	605	1,909	3,222
	Ac. Ft.	281	222	757	1,260
Surface Area					
Sediment Pool	Acres	14	20	37	71
Beneficial Use Pool					
Recreation	Acres			60	60
M&I Water	Acres			127	127
Floodwater Retarding Pool <u>1</u> /	Acres	40	65	176	281



TABLE 3 - STRUCTURAL DATA (Cont'd)

DAMS WITH PLANNED STORAGE CAPACITY

Dynne Creek Watershed, Alabama

Item	Unit	1	3	4	Total
Principal Spillway Design					
Rainfall Volume (1-day)	In.	7.5	7.5	7.5	
Rainfall Volume (10-day)	In.	13.6	13.6	13.6	
Runoff Volume (10-day)	In.	6.75	6.75	6.75	
Capacity of Low Stage (Max.)	cfs	32	25	79	
Capacity of High Stage (Max.)	cfs	128	96	306	
Dimensions of Conduct	In.	30	30	42	
Emergency Spillway Design					
Frequency Operation- Emergency Spillway	% chance	2	2	2	
Rainfall Volume (ESH)	In.	8.8	8.8	8.8	
Runoff Volume (ESH)	In.	5.28	5.28	5.28	
Storm Duration	Hrs.	6	6	6	
Type	Veg	Veg	Veg	Veg	
Bottom Width	Ft.	150	100	250	
Velocity of Flow (V)	Ft/Sec.	6.37	5.70	5.35	
Slope of Exit Channel	Ft/Ft.	0.0310	0.0334	0.0348	
Max. Reservoir Water Surface Elevation	Ft.	966.6	910.73	939.05	
Freeboard Design					
Rainfall Volume (FH)	In.	15.5	15.5	15.5	
Runoff Volume (FH)	In.	11.5	11.5	11.5	
Storm Duration	Hrs.	6	6	6	
Max. Reservoir Water Surface Elevation	Ft.	969.3	914.0	942.7	
Capacity Equivalents					
Sediment Volume	In.	0.70	0.74	0.65	
Floodwater Retarding volume	In.	4.13	4.47	4.51	
Beneficial Volume	In.			5.82	

1/ Crest of Emergency Spillway

June 1977

TABLE 4 - ANNUAL COST

Dynne Creek Watershed, Alabama

(Dollars) 1/

Evaluation Unit	Amortization of Installation Cost <u>2/</u>	Operation, Maintenance, and Replacement Cost	Total
Floodwater Retarding Structures Nos. 1 & 3, Multiple-Purpose Structure No. 4, and Recreational Facilities	94,000	15,600	109,600
Project Administration	11,900	XXXX	11,900
GRAND TOTAL	105,900	15,600 <u>3/</u>	121,500

1/ Price base 1976.2/ Amortized @ 6 1/8 percent interest rate for 100 years.3/ Includes \$13,600 for operation, maintenance, and replacement of the recreational development.

June 1977

TABLE 5 - ESTIMATED AVERAGE ANNUAL FLOOD DAMAGE REDUCTION BENEFITS

Dynne Creek Watershed, Alabama

(Dollars) 1/

Item	Estimated Average Annual Damage		Damage Reduction Benefit <u>2/</u>
	Without Project	With Project	
Floodwater			
Crop & Pasture	11,000	3,800	7,200
Other Agricultural	5,500	1,600	3,900
Nonagricultural	3,300	700	2,600
Subtotal	19,800	6,100	13,700
Sediment			
Overbank deposition	540	190	350
Subtotal	540	190	350
Erosion			
Flood Plain Scour	690	240	450
Subtotal	690	240	450
Indirect	3,230	1,130	2,100
TOTAL	24,260	7,660	16,600

1/ Current normalized prices (July 1976) for crop and pasture damages, 1976 prices for all other.

2/ Excludes effects of accelerated land treatment measures.

June 1977

TABLE 6 - COMPARISON OF BENEFITS AND COSTS

Dyne Creek Watershed, Alabama

(Dollars)

Evaluation Unit	AVERAGE ANNUAL BENEFITS 1/							Benefit Cost Ratio
	Damage 2/ Reduction	Intensive Land Use	Changed Land Use Agricultural	Recreation	Municipal Water Supply	Employment	Total	
Floodwater Retarding Structures Nos. 1 & 3, Multi-Purpose Structure No. 4, and Recreation Facilities	16,600	12,900	11,700	50,000	61,700	28,300	181,200	1.7:1.0
Project Administration								
GRAND TOTAL	16,600	12,900	11,700	50,000	61,700	28,300	181,200	1.5:1.0

1/ Current normalized prices (July 1976) for crop and pasture damages, 1976 prices for all other.

2/ From Table 5.

3/ From Table 4.

June 1977

FINAL ENVIRONMENTAL IMPACT STATEMENT

DYNNE CREEK WATERSHED

Cleburne County, Alabama

June 1977



USDA-SCS-EIS-WS-(ADM)-77-1-(F)-AL

DYNNE CREEK WATERSHED
CLEBURNE COUNTY, ALABAMA

FINAL ENVIRONMENTAL IMPACT STATEMENT

W. B. Lingle
State Conservationist
Soil Conservation Service

Sponsoring Local Organizations

Dynne Creek Watershed Conservancy District
A. R. McLeroy, Chairman
Route 3
Heflin, Alabama 36264

Cleburne County Soil and Water Conservation District
Percy Owen, Chairman
Route 4
Heflin, Alabama 36264

Cleburne County Commission
Horace S. Merrill
Cleburne County Probate Judge
Cleburne County Courthouse
Heflin, Alabama 36264

June 1977

Prepared By

U. S. DEPARTMENT OF AGRICULTURE
Soil Conservation Service
P. O. Box 311
Auburn, Alabama 36830



USDA ENVIRONMENTAL IMPACT STATEMENT

DYNNE CREEK WATERSHED PROJECT

Cleburne County

Alabama

Prepared in Accordance with
Sec. 102(2)(C) of P.L. 91-190

SUMMARY

- I. Final
- II. Soil Conservation Service
- III. Administrative
- IV. Description of project purpose and action: A project for watershed protection, flood prevention, recreation, and municipal and industrial (M&I) water in Cleburne County, Alabama to be implemented under authority of the Watershed Protection and Flood Prevention Act (PL 566, 83rd Congress, 68 stat. 666), as amended. The planned works of improvement include conservation land treatment, two single-purpose floodwater retarding structures, one multipurpose structure, and a recreational development. The single-purpose structures Nos. 1 and 3 will retard runoff from 5.75 square miles of drainage area. The multipurpose structure No. 4 will provide flood protection by retarding runoff from 7.93 square miles of drainage area. In addition, the structure will provide 415 acre feet of recreation water and 2,055 acre-feet of M&I water. The M&I water storage will provide a minimum of 3.38 million gallons of water per day for use in Cleburne County. The recreational development will provide 25,000 recreation visits annually.
- V. Summary of Impacts: Action on the project will:
 1. Reduce sediment yield at mouth of watershed by 40 percent
 2. Reduce sediment accumulation on flood plain by 60 percent
 3. Reduce fertilizer losses and improve farming efficiency
 4. Improve aesthetics on uplands
 5. Reduce forest fires

USDA SOIL CONSERVATION SERVICE FINAL ENVIRONMENTAL
IMPACT STATEMENT

for

DYNNE CREEK WATERSHED, ALABAMA

AUTHORITY

Installation of this project constitutes an administrative action. Federal assistance will be provided under authority of Public Law 83-566, 83rd Congress, 68 stat. 666, as amended.

SPONSORING LOCAL ORGANIZATIONS

Dynne Creek Watershed Conservancy District
Cleburne County Soil and Water Conservation District
Cleburne County Commission

USDA SOIL CONSERVATION SERVICE FINAL ENVIRONMENTAL
IMPACT STATEMENT

for

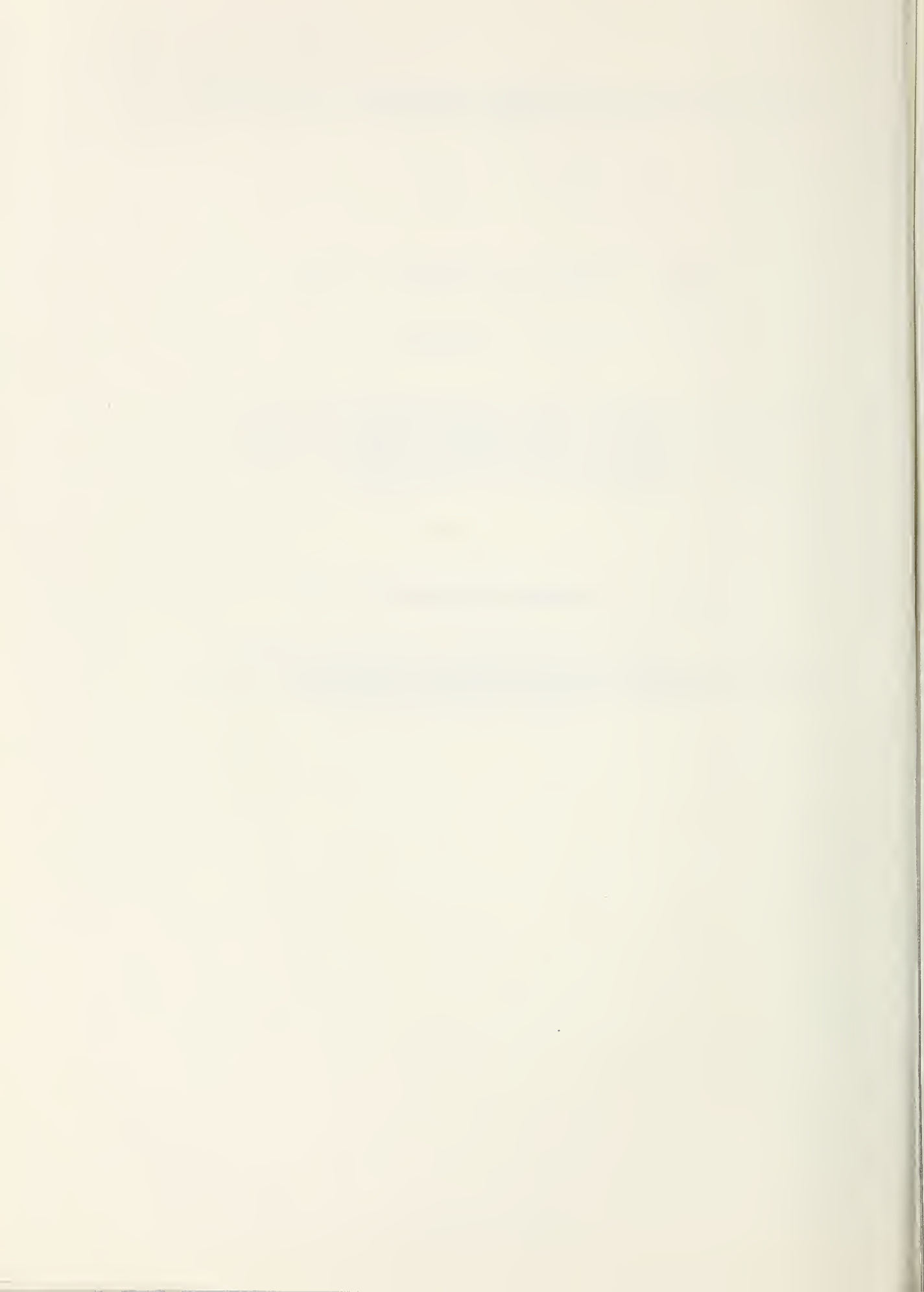
DYNNE CREEK WATERSHED, ALABAMA

AUTHORITY

Installation of this project constitutes an administrative action. Federal assistance will be provided under authority of Public Law 83-566, 83rd Congress, 68 stat. 666, as amended.

SPONSORING LOCAL ORGANIZATIONS

Dynne Creek Watershed Conservancy District
Cleburne County Soil and Water Conservation District
Cleburne County Commission



PROJECT OBJECTIVES

The overall objective of the project is to improve the quality of life of its watershed residents by improving the economic and environmental conditions of the watershed. Specific components of the objectives are those that will result in the conservation, improvement, and/or productive use of the watershed's soil, water, and related resources so as to make a contribution to the two planning objectives of national economic development (NED) and/or environmental quality (EQ).

The sponsors considered a broad range of possible component needs which would contribute to the two objectives. These were obtained through public involvement, input from state and federal agencies, and inventories and evaluations of the soil and water resources. The following is a listing of the identified specific components and component needs for the watershed area:

<u>OBJECTIVE</u>	<u>SPECIFIC COMPONENT</u>	<u>COMPONENT NEED</u>
NED (National Economic Development)	Increased and more efficient output of agricultural production.	Reduction in frequency, duration and depth of flooding. Reduction in erosion on cropland. Improvement of drainage on cropland and forest land. Reduction in number of fires. Improve- ment in management of forest land for production of forest products. Im- provement in management of cropland and pastureland for agricultural production.
	Increased output of recreational services.	Additional land and water for public water based rec- reation (with associated recreational facilities).
	Increased municipal and industrial water supply.	Dependable water source to supply the needs of area.

EQ (Environmental Quality)	Management, preservation, or enhancement of valuable biological resources.	Create additional wildlife habitat. Improve management of forest land to enhance value as wildlife habitat. Create additional lake fishery habitat.
	Enhancement of quality aspects of land and water.	Reduce erosion on cropland. Reduce sediment being delivered to streams. Stabilize critically eroding roadbanks.

The identified component needs for NED and EQ involve complementary uses of the soil, and water related resources and will be satisfied by the selected plan.*

*Definitions of various terms:

National Economic Development (NED) - to enhance National Economic Development by increasing the value of the Nation's output of goods and services and improving economic efficiency.

Environmental Quality (EQ) - to enhance the quality of the environment by the management, conservation, preservation, creation, restoration, or improvement of the quality of certain natural and cultural resources and ecological systems.

Components - desired plan outputs; water and related land resource problems and development potentials provide the basis for specifying components of the objectives.

Specific Components - a general expression as to the type of output desired, such as increased output of food and fiber. Such expressions are termed specific components of the objective.

Component Need - A specific expression of desired outputs in terms of type, quantity, and quality. Such expressions are termed component needs.

PLANNED PROJECT

LAND TREATMENT MEASURES

Conservation land treatment is a basic element in formulating the watershed program. It is defined as "applying management, cultural, and structural practices in such a manner that the land is used within the limits of its capabilities and soil losses from erosion are held to acceptable levels." Land treatment is accomplished primarily through the development and implementation of conservation plans (documents that guide deliberate actions to accomplish land treatment) and forest management plans (documents describing conditions and treatment needs for individual units of forest land). The conservation plan outlines appropriate uses for each acre of land and shows the conservation practices needed for sustained production and protection. The land users make their own arrangements for implementing the plans and determine the rate and sequence in which practices will be applied.

Conservation planning goals were established after carefully reviewing (1) the Cleburne County S&WCD long-range program, (2) the conservation needs within the watershed, (3) the current rate of land treatment, and (4) the ability and willingness of land users to apply conservation measures. Conservation plans have been developed on 19 of the 80 farms in the watershed covering 3,117 acres. The conservation planning goal is to develop plans on as many of the remaining 61 farms as possible during the 5-year installation period. During this period, it is expected that 35 new conservation plans representing 4,900 acres will be prepared and 7 of the existing plans will be revised. Forest management plans will be developed on approximately 4,200 acres. About 3,500 acres of forest management plans will be included in the 35 new conservation plans, and about 700 acres will be developed on lands where conservation plans will be revised. The watershed project will accelerate conservation planning activities by about six times the present rate.

An estimated 300 acres of cropland, 365 acres of pasture and hayland, 1,410 acres of forest land, and 47 acres of other land (15 acres of wildlife land and 32 acres of critically eroded area) are expected to be adequately treated as a result of the accelerated land treatment program by the end of the 5-year installation period. This means that the land will be used within its capabilities and conservation practices essential to its protection and planned impoundment will have been applied. Additional land will be partially treated to the extent that it is adequately protected, i.e., soil, water, and plant resources are protected from deterioration. Land adequately treated and adequately protected at present and at the end of the installation period is as follows:

LAND ADEQUATELY TREATED

<u>Land Use</u>	<u>Present (Ac.)</u>	<u>(Estimated) At End of* Installation Period (Ac.)</u>
Cropland	250	600
Pasture and Hayland	570	995
Forest Land	7,660	9,845
Other Land	0	52

*Includes going land treatment program

LAND ADEQUATELY PROTECTED

(Includes land adequately treated)

<u>Land Use</u>	<u>Present (Ac.)</u>	<u>(Estimated) At End of** Installation Period (Ac.)</u>
Cropland	310	710
Pasture and Hayland	1,100	1,500
Forest Land	12,000	13,000
Other Land	411	391*

*The decrease in acres of other land is due to the change of land use from other land to cropland, pastureland, and forest land.

**Includes going land treatment program

Conservation practices expected to be applied on cropland and pastureland include conservation cropping systems, contour farming, critical area planting, crop residue use, drainage field ditches, drainage mains and laterals, field borders, grassed waterways and outlets, ponds, pasture and hayland management, pasture and hayland planting, and wildlife upland habitat management.

SCS definitions 1/ of the above practices are as follows:

Conservation Cropping Systems - Cultivating crops in combination with needed cultural and management measures. Cropping systems include rotations that contain grasses and legumes, as well as rotations in which the desired benefits are achieved without use of such crops. (Cover crops are also included in this practice).

Contour Farming - Farming sloping cultivated land in such a way that plowing, preparing land, planting, and cultivating are done on the contour.

Critical Area Planting - Planting vegetation such as trees, shrubs, vines, grasses, or legumes on critically eroded areas.

Crop Residue Use - Using plant residues to protect cultivated fields during periods of critical erosion.

Drainage Field Ditch - A graded ditch for collecting and removing excess water within a field.

Drainage Main or Lateral - An open drainage ditch constructed to a designed size and grade.

Field Border - A border or strip of perennial vegetation established at the edge of a field by planting or by converting it from trees to herbaceous vegetation or shrubs.

Grassed Waterway or Outlet - A natural or constructed waterway or outlet shaped or graded and established in vegetation suitable to safely dispose of runoff from a field, diversion, terrace, or other structure.

Pond - A water impoundment made by constructing a dam or embankment, or by excavating a pit or "dug out."

Pasture and Hayland Management - Proper treatment and use of pasture-land and hayland to prolong life of desirable forage species, to maintain or improve the quality and quantity of forage, and to protect the soil and reduce water loss.

Pasture and Hayland Planting - Establishing and re-establishing long-term stands of adapted species of perennial, biennial, or reseeding forage plants.

Wildlife Upland Habitat Management - Retaining, creating or maintaining habitat for upland wildlife.

Conservation practices expected to be applied on forest land include tree planting, release, and improvement cutting. Forest Service definitions of these practices are as follows:

Planting - Planting tree seedlings to establish, reinforce, or improve stocking and/or composition of a forest stand.

Release - Freeing a tree or group of trees from competition by cutting or otherwise eliminating growth that is overtopping or closely surrounding them.

Improvement Cutting - Removal, through a commercial or pre-commercial penetration, of less desirable trees to improve the composition condition and rate of growth of the remaining forest stand.

About 32 acres of critically eroding roadbanks will be treated. These areas include steep eroding roadbank cuts and fills, gullying road ditches and eroding road shoulders. All areas designated for treatment are bare of vegetation and are critical sediment producing areas.

Critical area treatment will consist of grading and shaping the steep slopes, preparing seedbeds, liming, fertilizing, seeding, and mulching. A few areas are planned for hydraulic seeding and mechanical mulching without grading and shaping. Remedial treatment measures will be performed as required during the year following the initial treatment in order to establish vegetation.

The areas to be managed for wildlife upland habitat management will be land used almost entirely for wildlife. Wildlife habitat management on all land will be emphasized in conservation planning.

Technical assistance will be made available to land users (both owners and operators) by the SCS through the S&WCD and by the Alabama Forestry Commission in cooperation with the Forest Service. Technical assistance will be provided for planning, implementing, and maintaining conservation measures, and for applying critical area treatment. 2/

Technical assistance provided by the SCS normally involves site investigation, design, layout, and supervision of construction for structural practices such as ponds, waterways, etc. Less complex practices, such as contour farming, usually require only minor surveys for layout. Management and cultural practices, such as pasture and hayland management, require only consultative assistance.

Land users will make use of other going programs, such as those administered by the Agricultural Stabilization and Conservation Service and the AFC, to help finance the installation of certain conservation measures.

STRUCTURAL MEASURES

Reservoir Type Structures

Two single-purpose floodwater retarding structures (structures Nos. 1 and 2) and one multipurpose structure (structure No. 4) are planned at sites shown on Appendix B. The floodwater retarding structures (FRS) are designed to temporarily retard floodwater and release it at a rate that will not induce downstream flooding. Runoff from about 54 percent of the watershed will be controlled by the structures. Structure No. 4 is designed for three purposes: (1) to reduce flooding, (2) to provide recreation water storage, and (3) to provide municipal and industrial (M&I) water storage.

Preliminary plans for the M&I water withdrawal facility consist of a stand-pipe located near the principal spillway riser. The "intake" line connecting the stand-pipe and the water treatment plant will be located parallel to the upstream toe of the dam. It is proposed to attach the stand-pipe to the principal spillway riser for stability; however, it is not expected that this arrangement will affect the design, cost or functioning of the dam.

All structures will be built on nonyielding foundations with both internal and foundation drainage.

The dams will be constructed of compacted earth. They will have an upstream berm (see Appendix H) located at the permanent pool level to prevent erosion from waves and to increase stability.

Preliminary geologic investigations indicate that all required fill material for the embankments can be taken from the emergency spillway and sediment pool areas. The borrow materials are primarily weathered metamorphics (phyllite) and alluvial deposits ranging from moderately plastic clays and silts (CL and ML), to nonplastic silty sands (SM). If additional borrow materials are needed they will be taken from locations adjacent to the emergency spillways.

The principal spillways for all structures will be a drop inlet type and will operate automatically. All structures will have a slide gate in the base of the principal spillway riser. The slide gate will release stream-flow and storm runoff during construction and will enable the sponsors to release impounded water in order to perform maintenance as needed.

All principal spillways will have two-stage risers (see Appendix H). The crest of the low stage on the principal spillways for structures Nos. 1 and 3 will be set at the 100-year sediment level. The low stage for structure No. 4 will be set to provide a permanent pool which will contain 275 acre-feet for 100-year accumulation of sediment, 2,055 acre-feet of M&I water, and 415 acre-feet of recreation water.

The maximum low stage release from any of the structures will be about 10 cubic feet per second per square mile (CSM) of drainage area controlled. The maximum high stage release will range from about 35 to 41 CSM.

A plunge pool, or other type energy dissipator, will be installed at the outlet of the principal spillway to reduce the energy of the water to a nonerosive velocity before it enters the downstream channel.

All structures are designed to be functional for at least 100 years. Each structure will have a vegetated emergency spillway to pass flows that exceed the storage capacity of the reservoir. The emergency spillway of each structure will function on the average of once every 50 years. The total floodwater retarding storage of the structures is 3,222 acre-feet. Total sediment storage is 519 acre-feet.

Installation of the three structures will require obtaining land rights on 475 acres of land. This area consists of 445 acres of forest land and 30 acres of pastureland. The dams, emergency spillways, and borrow areas will require 40 acres, which includes 38 acres of forest land and 2 acres of pastureland. The sediment pools of structures Nos. 1 and 3, and permanent pool of structure No. 4 will inundate 161 acres, which includes 133 acres of forest land and 28 acres of pastureland. The retarding pools, when full, will temporarily inundate an additional 120 acres of forest land. Land rights will also be needed on an additional 93 acres of forest land which is between the emergency spillway crest and the tops of dams of the three structures. Structures Nos. 1 and 3 will be constructed on private land and their use by the public will be restricted.

The areas needed for construction of the dams, emergency spillways, and borrow areas will be cleared of all existing vegetation. In addition, woody vegetation within the permanent pool will be cleared. This will allow the floodwater retarding structures to operate in a safe and adequate manner. The precise area to be cleared will be determined during the installation phase at each site. The dams, emergency spillways, and all other disturbed areas will be vegetated with adaptable plants. The vegetation will control erosion and improve the aesthetic quality of the area. Detailed structure layout, clearing and vegetative plantings will be planned to preserve and/or enhance the aesthetic quality of the area to the maximum feasible extent.

Each construction contract will contain specific provisions to insure that the environment is protected as much as possible during construction. Excavation and construction operations will be scheduled and controlled to prevent erosion. Measures to control erosion will be uniquely specified at each work site and will include, as applicable, use of temporary vegetation, mulches, diversions, and traps. Construction equipment will be required to have mufflers to reduce noise. Haul roads, excavation areas, and other work sites will be sprinkled with water as needed to keep dust within tolerable limits. Contract specifications will require that fuel, lubricants, and chemicals be adequately labeled and stored safely in protected areas. Disposal of cans and lubricants at work sites will be according to approved methods and procedures. Clearing and disposal of brush and vegetation will be carried out in accordance with applicable laws, ordinances, and regulations with respect to burning. Each contract will contain specific stipulations against uncontrolled grass or brush fires. Necessary sanitary facilities will be installed according to the requirements of the Occupational Safety and Health Act (OSHA). Sanitary facilities will be located in accordance with federal, state, and local regulations to insure that live streams or ground water will not be contaminated. Conformance to all environmental control requirements will be monitored constantly by a construction inspector who will be onsite during construction.

Project sponsors will operate and maintain the structural measures in accordance with a specific operation and maintenance agreement. The agreement will set forth inspections to be made and the maintenance to be performed to assure proper functioning and to prevent soil erosion.

Public Recreational Facilities

A water-based recreational development will be installed on about 50 acres of land adjacent to structure No. 4 (see Appendix B1 and table 2B). By using established SCS procedures, it was determined that on the average 25,000 recreation visits could be expected annually at the proposed recreation site over a 50-year period. These visits include, by type of activity, picnicking (15,300), fishing (5,500), and other activities (4,200). Planned facilities will include picnic areas, water supplies, sanitary facilities, electrical service, access roads, a system of nature trails, fishing facilities, and play areas. The picnic areas will consist of 40 concrete picnic tables; 25 trash receptacles with stands; 15 metal grills; one 26' X 40' group shelter with water and electrical services; 10 wooden tables; a fireplace; one playground area with equipment and safety fencing; eight wooden benches; and one multipurpose sports field for volleyball, softball, and other games. Fishing facilities include one double boat ramp, five boat dock slips, and a 300-square foot fishing pier.

Sanitary facilities include piped water from one deep well and storage tank. This system will include 1500 feet of 2-inch pipe and three water fountains. There will be two comfort stations each with three toilets, two lavatories, and one urinal with associated septic tanks and field lines. Soils in the park area are moderately limited for septic fields. The use classification is designated moderately limited primarily due to steep slopes. Such facilities will be designed and installed in accordance with state and local public health regulations and will be easily accessible to the handicapped. The electrical service will be underground with 3,000 feet of lines and nine security lights.

Approximately 4,000 feet of double-lane roads and 1,000 feet of single-lane hard surfaced roads will be provided. Seventy parking spaces for cars and 20 car/trailer spaces will be constructed and marked to serve the picnic area and fishing pier. There will be 2,000 feet of curbing around the parking areas.

A fishing pier with a security light will be constructed near the paved parking area. The pier will be a floating type to compensate for the changing lake level and permit year-round use.

A chain link fence will enclose the park, and the entrance will be at a central location. Recreational facilities will be designed so that the physically handicapped can participate to the maximum extent possible.

Pedestrian access to the various recreational facilities will be provided by 1,500 feet of concrete walks 4 feet wide.

Approximately 15 acres of vegetative treatment will be needed around the recreational facilities. About 1,000 feet of concrete flumes and associated vegetation will be installed along access roads to remove surface runoff.

General

The installation of this project will not require any relocation or displacements of any individual, business, or farm operation. The installation of structure No. 4 will require the closing of an unpaved road (Teagues Mill Road) due to inundation, see Appendix B.

Facilities will be located to enhance the aesthetics of the park. Functional landscape plantings will be used to preserve or enhance the quality of the landscape by screening, controlling pedestrian traffic, and other uses as needed.

According to the Alabama Historical Commission, no archaeological sites of value exist within the proposed construction or inundated areas of this project (see Appendix G). If sites are uncovered during construction, the Alabama Historical Commission and the Department of the Interior will be notified. If any archaeological sites of value are identified, provisions of Section 3 of Public Law 93-291 will be followed. The project, as planned, will not affect any cultural resources listed in the National Register of Historic Places, nor will it affect any cultural resources eligible for nomination to the National Register of Historic Places.

OPERATION, MAINTENANCE, AND REPLACEMENT

Land treatment measures will be maintained by landowners under cooperative agreements with the Cleburne County Soil and Water Conservation District. The SCS will provide technical assistance through the District for operation and maintenance of land treatment measures. The Alabama Forestry Commission in cooperation with the U. S. Forest Service, will maintain the fire equipment and will furnish technical assistance necessary for operating and maintaining the forest land treatment measures under going cooperative programs. The Cleburne County Commission will maintain the critical area treatment with technical assistance being provided by SCS.

The Cleburne County Commission will be responsible for and promptly perform, or have performed, without cost to SCS, all maintenance of the structural measures as determined to be needed by either the sponsors or SCS immediately following completion of the structures by the contractor. Funds for O&M will be provided from the county's general tax revenue.

The estimated average annual cost of operation and maintenance is \$15,600 and includes \$4,850 for replacement of recreational facilities. Operation and maintenance work will normally include such action as removing rubbish

from the park, repairing and replacing the recreational facilities and maintaining adequate vegetative cover to prevent site deterioration. Vegetative cover maintenance will include fertilization, periodic irrigation during drought periods, and/or selective sodding, sprigging, or seeding in heavy use areas.

The sponsors may charge a user fee not to exceed costs of operation, maintenance and replacement costs of the recreation facilities.

The water supply will be monitored by the State Health Department to insure good water quality. The sponsors will regulate the release rates from the M&I reservoir according to needs and weather conditions.

The sponsors will maintain the vegetation associated with structural measures after SCS determines that the initial vegetation work is completed; this maintenance will begin no later than three years following completion of each structural measure. Maintenance of the structures will consist of, but not be limited to, items such as controlling undesirable vegetation, painting metal parts, repairing gates and trash racks, and repairing eroded areas. Mowing operations, for the most part, will be done with a farm tractor and mower.

An annual inspection will be performed and documented by a responsible official of the County, preferably accompanied by a landowner actively farming within the project area. The inspection should be made in late spring or early summer so that needed maintenance can be completed before the start of the rainy season. Inspections will be made soon after each major storm. More frequent inspections may be required when unusually severe storms occur. These inspections may help identify problems early and prevent other storms from compounding the problem. The SCS will assist the Cleburne County Commission in the inspections the first three years and thereafter as deemed necessary.

An operation and maintenance agreement will be entered into by the sponsors and the Service prior to signing a land rights, relocation, or project agreement. The O&M agreement will contain, in addition to specific sponsor responsibilities for structural measures, specific provisions for retention and disposal of real and personal property acquired in whole or in part with PL-566 funds. The O&M agreement will also contain a reference to the State Watersheds Operation and Maintenance Handbook.

PROJECT COSTS

Total installation cost of the project is estimated to be \$1,942,730 (Part I, table 1). This cost is distributed between Public Law 566 and "Other" funds as follows:

	<u>PL-566</u>	<u>Other</u>	<u>Total</u>
Conservation land treatment	\$61,800	\$157,130 <u>1/</u>	\$218,930
Structures & Rec. Facilities	<u>930,600</u>	<u>793,200</u> <u>2/</u>	<u>1,723,800</u>
Total	\$992,400	\$950,330	\$1,942,730

Construction costs of the structures are shared as follows:

	<u>PL-566</u>	<u>Other</u>	<u>Total</u>
Construction Costs	\$699,500	\$617,900	\$1,317,400

1/ Includes \$121,330 cost to landusers to apply conservation land treatment measures, \$25,400 cost to sponsors to apply critical area treatment measures, \$2,000 cost to the Alabama Forestry Commission for fire control, \$1,600 for fire control from federal funds, and \$6,800 of federal funds for technical assistance by federal agencies to assist with installation of land treatment measures.

2/ Cost to sponsors including \$617,900 for construction, \$33,800 for engineering, \$91,500 for land rights, and \$50,000 for project administration.

ENVIRONMENTAL SETTING

PHYSICAL RESOURCES

Dynne Creek Watershed covers an area of about 16,600 acres in the southern portion of Cleburne County, Alabama (see Appendix B-2). Dynne Creek originates approximately nine miles southeast of Heflin (population 3,000) and flows in a westerly direction to its confluence with the Tallapoosa River. The watershed is located about twenty miles east of Anniston, Alabama (population 31,500).

The watershed is in the South Atlantic Gulf Water Resource Area and the Alabama Water Resource Subarea, as delineated by the U. S. Water Resources Council. 3/ Most of the watershed occupants operate small family-type farm units.

Soil and water resource problems exist throughout the watershed. Flood-water problems occur frequently because of high runoff and low stream capacities. About 866 acres of flood plain land are routinely damaged by floods every year.

Average annual erosion rates on steep crop fields in the watershed uplands exceed the maximum soil-loss tolerance established by the SCS. This is a result of sheet erosion which reduces soil productiveness by removal of the fertile top soil.

Soils, and Land Capabilities

The soils in the drainage area are described by soil associations (see Appendix D).

The Riverview-State-Sylacauga association consists of nearly level to sloping, well drained and somewhat poorly drained soils on flood plains and stream terraces. Much of the area is suited for pasture, hay and cultivated crops. The potential is generally good for developing campsites, and riding and hiking trails. Flooding is a major deterrent to urban development. Capability class and subclass is IIw for the association.

The Tatum-Fruithurst-Tallapoosa association consists of well drained, moderately deep and shallow, loamy soils on uplands. The area is suited to woodland. A small percentage is suited for pasture, hay and cultivated crops. The potential is generally good for campsites, and riding and hiking trails, and is fair to poor for urban development because of steep slopes. Capability class and subclass is VIe.

The Madison-Hiwassee-Louisa association consists of well drained, deep to shallow clayey soils on uplands. The area has a good potential for campsites, riding and hiking trails, and woodland. A minor part is suited to pasture, hay and cultivated crops. Steep slopes are a major limitation for urban uses. Capability class and subclass is VIe for the association.

The Waynesboro-Mecklenburg association consists of well drained, deep and moderately deep loamy and clayey upland soils. Much of the area is suited to pasture, hay, cultivated crops and woodland. The potential is good for most recreational developments. Slopes are the major limitation to urban development. Capability class and subclass is IVe.

Geology and Topography 4/ 5/

The watershed lies within the Southern Piedmont Land Resource Area and is underlain by the Talladega Slate formation. The Talladega is a thick segment of metamorphic rocks, predominantly schist and phyllite. These rocks weather to produce a residual sandy silt, generally referred to as saprolite. The soil usually becomes more dense with depth, grading into partially weathered rock, and thence, into unweathered rock. Weathered rock slabs and large boulders frequently occur within the soil mass.

In the watershed, the streams of the valleys have cut into the phyllite and deposited a veneer of alluvium over the weathered phyllite which underlies the flood plains.

The strike of the formation is generally north 30 degrees east while the dip is in a southeasterly direction of about 35 to 40 degrees. However, the dip may range from 20 to 60 degrees because of thrust faulting.

The watershed is physiographically located in the Piedmont Province. The Piedmont is a submaturely dissected surface developed on igneous and metamorphic rocks. Topography varies from gently rolling to steep. Narrow flood plains and steep valley walls exist in the south and eastern two-thirds of the watershed. In the northwestern part, the flood plains along Dynne Creek and its tributaries widen with gently rolling valley walls. Elevations range from about 810 to 1720 feet mean sea level giving a total relief of about 910 feet.

Climate 6/

The average annual rainfall in the watershed is approximately 54 inches. October is normally the driest month and March the wettest, with a mean monthly precipitation of 2.58 and 6.09 inches, respectively. Intense

showers and thunderstorms of short duration are common during the spring. Severe droughts are uncommon, but dry conditions prevail from midsummer to late fall. Winters are relatively mild and summers are warm. The average annual temperature is 62 degrees Fahrenheit, with temperatures ranging from an average low of 45 degrees in December to a high of 80 degrees in July. The length of the growing season is approximately 220 days, with the last killing frost generally occurring in April and the first in October.

Mineral and Ground Water Resources 7/ 8/

Gold has been mined in the streams and surrounding areas in the vicinity of Arbacoochee. Placer deposits of sand and gravel were mined here for gold during the early 1800's.

Later, unsuccessful attempts were made to mine gold bearing veins. These attempts were apparently abandoned during the California gold rush of 1849. Small abandoned mine pits no more than 15 feet deep can be seen south of Arbacoochee in the vicinity of proposed floodwater retarding structure No. 3.

In addition to gold, the following minerals are found either within or immediately surrounding the watershed: (1) Beryl, (2) Biotite or "Black Mica", (3) Chlorite, (4) Feldspar, (5) Garnet, (6) Kyanite, (7) Malachite, and (8) Muscovite. These minerals occur as scattered deposits and are not actively mined within the boundary of the watershed.

Water for farm and domestic use is obtained from dug and drilled wells. The occurrence of ground water in the metamorphic rocks is controlled by the number, size and pattern of fractures. Fractures in the bedrock that have been enlarged by weathering and solution contain the greatest amount of ground water.

The water table is generally in the bedrock in the uplands and in the alluvial soils and saprolite of the lowland areas. Most wells produce water from the saprolite or from fractures in the upper 100 feet of the bedrock. Lowland wells yield from about 41 to 47 gallons per minute, while the upland wells yield from about 13 to 26 gallons per minute.

Land Use

Land uses within the watershed are as follows:

WATERSHED

<u>Use</u>	<u>Acres</u>	<u>Percent</u>
Cropland	905	5.5
Pastureland	1,543	9.3
Forest Land	13,635	82.1
Other	517	3.1
TOTAL	16,600	100.0

Land uses within the flood plain are as follows:

Use	Percent
Agriculture	31.2
Pasture	41.6
Forest	22.5
Urban	4.7
Total	100.0

During the most recent year, about 10% of the flood plain was used for soybeans and pasture. The remainder of the flood plain was used for forest and soybean production. Flooding of the flood plain is a problem in low-lying areas.

Stream Flow

There are several streams in the watershed and only five have gauging stations. The following are the gauging stations:

Stream No. 1 is a small stream which is ephemeral. The next two miles from the mouth of the stream, flows consist of little or no flow through the stream. The stream is perennial from the confluence of the stream with the main stream. The stream is perennial from the confluence of the stream with the main stream.

Stream No. 2 is a small stream which is ephemeral. The stream is perennial from the confluence of the stream with the main stream. The stream is perennial from the confluence of the stream with the main stream.

Stream No. 3 is a small stream which is ephemeral. The stream is perennial from the confluence of the stream with the main stream. The stream is perennial from the confluence of the stream with the main stream.

There are no records of quantity of stream flow on Dynne Creek. Records (5-7 years, 1960-1966) from three U. S. Geological Survey stream gages within 15 to 25 miles of Dynne Creek Watershed were analyzed. These gages were on Wedowee Creek near Wedowee, Alabama (9.7 square miles); Little Terrapin Creek near Borden Springs, Alabama (15.9 square miles); and Little River near Buchanan, Georgia (18 square miles, approximately). Based on an extrapolation of data from this short period of record, the estimated mean monthly discharges in cubic feet per second at the lower end of Dynne Creek are as follows:

$\frac{J}{50}$	$\frac{F}{70}$	$\frac{M}{80}$	$\frac{A}{70}$	$\frac{M}{25}$	$\frac{J}{20}$	$\frac{J}{18}$	$\frac{A}{8}$	$\frac{S}{8}$	$\frac{O}{8}$	$\frac{N}{12}$	$\frac{D}{38}$
----------------	----------------	----------------	----------------	----------------	----------------	----------------	---------------	---------------	---------------	----------------	----------------

The estimated 10 year, 7-day low flow at the outlet of Dynne Creek is one to two cubic feet per second.

The water quality on Dynne Creek has been determined to be of acceptable quality for a municipal water supply and for the recreational uses that have been planned.

The Soil Conservation Service made water quality determinations at five stations on streams in Dynne Creek Watershed during March and October, 1975 (see figure 1). A Hach Chemical Company Kit, model AL-36B, was used in these determinations. Many state fishery agencies employ this or similar Hach Kit models for general field determinations.

Determinations were made for dissolved oxygen, carbon dioxide, pH, hardness, alkalinity, acidity, and temperature.

The state regulatory agency, the Alabama Water Improvement Commission (AWIC), has set the dissolved oxygen limit in streams designated for fish and wildlife at 5 milligrams per liter with an allowable deviation under extreme conditions due to natural causes. Dissolved oxygen may range between four and five milligrams per liter provided the water quality is favorable in all other parameters.

Generally speaking, carbon dioxide does not create fishery problems until a level of 25 milligrams per liter is reached. The AWIC has not established limits for this parameter.

A favorable pH range of waters designated for fish and wildlife is from 6.5 to 8.5. The AWIC has set limits of 6.0 to 8.5 on this parameter.

The AWIC has no set limits for total hardness, alkalinity and acidity. Samples were taken during a year of above normal rainfall and when Dynne Creek and its tributaries had relatively high flows. Hardness and alkalinity values probably would have been higher if the samples were taken during normal or low stream flow. Higher values generally indicate a greater variety of plant and animal life. For example, with other parameters being equal, hard water streams support snail life not found in soft water streams.

The water quality determinations made in Dynne Creek Watershed indicate the streams are typical of other streams in the Piedmont physiographic area. All parameters are within desirable fishery requirements with sedimentation being the only indication of pollution.

The five sampling stations were located as follows:

Station 1 - On tributary, at bridge on unpaved road, approximately one-half mile below proposed structure No. 4.

Station 2 - On Dynne Creek, at bridge on a county road, approximately two miles above the confluence of Dynne Creek and the Tallapoosa River.

Station 3 - On Dynne Creek approximately one mile above State Highway 19.

Station 4 - Approximately three-fourths mile above proposed structure No. 3 at County Road 42.

Station 5 - In permanent pool area of proposed structure No. 1.

The measurements determined for various parameters are shown in figure 1.

Figure 1

Sta- tion No.	Dissolved Oxygen (mg/l)	Carbon Dioxide (mg/l)	pH	Total Hardness (mg/l)	Total Alkalinity (mg/l)	Total Acidity (mg/l)	Water Temp. (°F)	Air Temp. (°F)	Date
1	11	5	7.5	17	17	5	56	-	3-25-7
	9	5	7.0	17	34	5	60	74	10-10-7
2	11	5	7.0	17	17	5	56	-	3-25-7
	9	5	7.0	17	34	5	60	78	10-10-7
3	12	0	7.0	17	17	5	56	-	3-25-7
	9	5	7.0	17	34	5	60	68	10-10-7
4	10	5	7.0	17	17	5	64	85	3-25-7
	8	5	7.0	17	17	5	60	72	10-10-7
5	9	5	7.0	34	34	5	58	65	10-10-7

The 7.93 square mile drainage area above proposed multipurpose structure No. 4 is approximately 93 percent forest land; four percent idle and pasture-land; one percent cropland; and two percent farmsteads, roads, etc. The

area is practically uninhabited and receives no discharge of sewage effluent or industrial waste, nor is it expected to in the foreseeable future. As would be expected from an area of this type, runoff water is of good quality for municipal and industrial use and it is anticipated that it will continue the same.

Wetlands

Based on recent surveys by field biologists, there are no wetlands of Type 2, 3, 4, 6, 7 or 8 as defined in USDI Circular 39 present in the watershed. The flood plain (866 acres) has been classed Type 1 wetland, and scattered farm ponds, Type 5 wetland; however, the project is not expected to affect these areas.

PRESENT AND PROJECTED POPULATION

The population of Heflin in 1960 was 2,400; in 1970 the population was 2,872, an increase of 19.7 percent. During this same period, Cleburne County's population increased from 10,911 to 10,996, an increase of about one percent. 9/

Population projections for Cleburne County and the Alabama Water Resource Subarea, of which Dynne Creek Watershed is a part, are as follows:

	<u>1980</u>	<u>2000</u>	<u>2020</u>
Cleburne County <u>10/</u>	12,700	17,000	22,600
Alabama Water Resource Subarea <u>11/</u>	1,256,100	1,548,900	1,967,800

ECONOMIC RESOURCES

The economy of the watershed is basically dependent upon farming and related industries. The principal farm enterprises in this area are row cropping and beef cattle production. Corn and soybeans are the major row crops produced. Tall fescue is the most common pasture grass. Corn yields average between 50 to 60 bushels per acre while soybeans yields average from 20 to 25 bushels per acre. Pasture yields average 5 or 6 animal unit months per acre.* During the past few years, corn acreage has decreased while soybean and pasture acreage has increased.

*Animal Unit Month - The amount of grazing required for one mature cow and calf for one month.

Virtually all of the forested land has been either logged or cleared for cultivation in the past, thus the present stands consist of principally young second growth. Stands consist of young sawtimber, 35 percent; poles, 40 percent; seedlings and sapling, 25 percent. About 85 percent of the area is well stocked with merchantable trees. All forest land is privately owned.

The Alabama Forestry Commission, in cooperation with U. S. Forest Service, through various Federal-State cooperative forestry programs is providing forest management assistance, forest fire protection, and forest pest control assistance to landowners in the watershed.

Pulpwood companies own 6,700 acres or about 49 percent of the forest land. The remaining forest land (6,935 acres) is in small, private, individual ownerships. The Kimberly-Clark Corporation Newsprint, a pulpwood processing plant, is located at Childersburg and provides a good market for pulpwood in the area.

During recent years, average farm size has increased while the number of farms has decreased. There are approximately 80 farms in the watershed; average size is 124 acres.

Land values range from about \$250 to \$500 per acre. Uplands range from about \$250 to \$400 per acre, while flood plain land ranges from \$350 to \$500 per acre. The average value of land and buildings per farm in Cleburne County is about \$20,000. 11/

The leading sources of employment in and around the watershed are manufacturing, services and agriculture. About 10.5 percent of the total work force of 3,700 in Cleburne County is currently unemployed. 12/ About 52 percent of the farms in Cleburne County have sales of less than \$2,500 per year. 11/ Most of the farms in the flood plain are the small family-type with low incomes. Cleburne County is in the Appalachian area and is included in the Coosa Valley Resource Conservation and Development Project.

Health and medical care in Cleburne County are provided through public health facilities in Heflin and Ranburne, see Appendix B-2. Also, there is a thirty bed hospital in Heflin and two doctors offices.

Educational facilities available in Cleburne County include a high school, elementary school and vocational-technical school at Heflin; a high school at Ranburne; an elementary school at Pleasant Grove; and a junior high school at Fruithurst. A new high school to be located in Heflin adjacent to the elementary school has been proposed.

Federal, state, and county roads provide access to the watershed. Interstate 20 and U. S. Highway 78 pass just north of the watershed. U. S. Highway 431 passes just south of the watershed. State Highway 19 provides a route through the watershed.

PLANT RESOURCES

The information on plant resources was obtained by SCS staff during watershed planning. It is not intended to represent a detailed scientific study of all the watershed flora. The descriptions of various plant communities include species of the most common plants.

Forest

Dynne Creek Watershed is located in the Southern Forest region. 13/ The forest type composition is pine, 50 percent; pine-hardwood, 25 percent; hardwood, 15 percent; and hardwood-pine, 10 percent. Principal species are loblolly and shortleaf pine, dogwood, blackgum, hickory, yellow poplar, persimmon, post oak, blackjack oak, and sweetgum.

The broad flood plain in the lower half of the watershed has been mostly cleared and is used for agricultural crops. Forest cover generally occurs along the stream banks and in other small isolated areas. The dominant overstory plants include sweetgum (Liquidambar styraciflua), water oak (Quercus nigra), willow oak (Q. phellos), hackberry (Celtis occidentalis), ash (Fraxinus Spp.), red maple (Acer rubrum), and elm (Ulmus sp.). Sycamore (Platanus occidentalis), river birch (Betula nigra) and ash are dominant species on the stream banks.

The secondary stratum of understory woody plants includes boxelder (Acer negundo), ironwood (Ostrya virginiana), alder (Alnus serrulata), and sumac (Rhus sp.). The most common understory plants include honeysuckle (Lonicera japonica), greenbrier (Smilax sp.), low panicums (Panicum spp.), Virginia creeper (Parthenocissus quinquefolia), and cane (Arundinaria sp.). Small areas of alder and black willow (Salix nigra) have developed on many small abandoned cropland areas that have become too wet for cultivated row crops.

The narrow flood plains in the upper portion of the watershed are mostly pasture and forest. Dominant overstory forest plants include sweetgum, hackberry, red oak (Quercus falcata), yellow-poplar (Liriodendron tulipifera), pine (Pinus spp.), and hickory (Carya spp.). The secondary stratum of woody plants includes flowering dogwood (Cornus florida), alder, sumac, sourwood (Oxydendrum arboreum), and black gum (Nyssa sylvatica). Understory plants are usually limited to the most shade tolerant species including honeysuckle, greenbrier, low panicums, and longleaf uniola (Uniola sessiliflora).

Much of the upland forest has developed by secondary plant succession from abandoned cropland. These areas have a mixed hardwood and pine overstory, with great diversity in understory plants. Dominant overstory trees include loblolly pine (Pinus taeda), shortleaf pine (P. echinata), sweetgum, hickory, red oak, blackjack oak (Quercus marilandica), post oak (Q. stellata), and yellow-poplar. The secondary stratum includes dogwood, red maple, blackgum, and black cherry (Prunus serotina). The diversity and number of understory species are in direct relation to the crown canopy of the overstory; however, most forest stands are open enough to support a high population of understory

plants. The most common understory plants include honeysuckle, greenbrier, low panicums, Virginia creeper, broomsedge (Andropogon virginicus), little bluestem (A. scoparius), plumegrass (Erianthus sp.), asters (Aster spp.), native lespedezas (Lespedeza spp.), and poison ivy (Rhus radicans).

The upland forests that have not developed through secondary plant succession occur mostly on steep slopes, narrow ridges, and areas with shallow or moderately deep soils. The overstory species are mixed hardwood and pine; however, these areas are usually dominated by hardwoods. Dominant overstory species include red oak, white oak (Quercus alba), chestnut oak (Q. prinus), blackjack oak, hickory, sweetgum, loblolly pine, and shortleaf pine. Yellow-poplar, white oak, and chestnut oak are usually abundant on the steep slopes. The secondary stratum includes dogwood, sourwood, and blackgum. The understory is usually composed of the more shade-tolerant plants such as honeysuckle, greenbrier, and bracken fern (Pteridium aquilinum). Oak-leaved hydrangea (Hydrangea quercifolia) frequently occurs near the base of shady, moist slopes.

Over one thousand acres of forest have been clear-cut and re-established to pine trees. Other small areas, mostly abandoned cropland, have been established to pine plantations.

Cropland

Plant communities on cropland are almost stable systems. Farmers use cultural, mechanical, and chemical practices to curtail the invasion of weeds; however, many weeds will still occur in cultivated fields. The kind and amount of weeds that invade crops are influenced by natural and cultural factors such as site selection, weather conditions, previous land use, timeliness of weed control operations, and effectiveness and selectivity of chemical herbicides. Weeds that commonly invade cultivated crops include crabgrass (Digitaria spp.), pigweeds (Amaranthus retroflexus, A. spinosus), fall panicum (Panicum dichotomiflorum), smartweed (Polygonum sp.), barnyard grass (Echinochloa crusgalli), Johnsongrass (Sorghum halepense), morning-glories (Ipomoea spp.), lambsquarter (Chenopodium album), common bermudagrass (Cynodon dactylon), nutsedge (Cyperus spp.), and cocklebur (Xanthium sp.).

Pastureland

The plants in improved pastures consist mostly of tall fescue (Festuca arundinacea), white clover (Trifolium repens), Dallisgrass (Paspalum dilatatum), and native grass and forb invaders. The most common invaders includes broomsedge, ragweeds (Ambrosia spp.), dog fennel (Eupatorium capillifolium), barnyard grass, smut grass (Sporobolus poiretii), pigweeds, little barley (Hordeum pusillum), nutsedge, and foxtail (Setaria sp.). Naturalized plants including bermudagrass and Johnsongrass are common invaders on the better soils; however they are readily consumed by livestock.

Idle Lands

The small areas of idle land in the watershed are usually abandoned cropland fields that remain idle for a few years before they are converted to pasture or revert to forest by secondary plant succession. These areas are very similar to typical Piedmont sites described by Oosting 14/, Billings 15/, and Odum 16/.

First invaders are dominated by crabgrass, horseweed (Erigeron canadensis) and little barley. Asters, common ragweed, goldenrod (Solidago sp.), and broomsedge become dominant during the second, third and fourth growing seasons. The grass-shrub stage includes ragweeds, bluestems, goldenrod, asters, greenbrier, blackberry (Rubus sp.), dewberry (R. trivilis), sumac, persimmon (Diospyros virginiana), native annual and perennial lespedezas, pine, sweetgum, oaks, and wild plum (Prunus americana).

ANIMAL RESOURCES

There are no printed census results for fish or wildlife in the watershed. The Alabama Department of Conservation and Natural Resources, however, has estimated that Cleburne County has 16,000 white-tailed deer, 640 wild turkeys, and 160,000 gray squirrels.

During the investigations, no particular management programs for wildlife were found within the watershed. Populations of the white-tailed deer, bobwhite quail, wild turkey, gray squirrel, and mourning dove are present in proportion to the carrying capacity of the watershed. With only about 1,000 acres in crop and idle land, the populations of dove and quail are expected to be no better than fair. No specific population, category, group, or species of fish, birds, or other animals were found to be dependent on conditions found only in this watershed. There are no known threatened or endangered organisms, as currently listed in the Federal Register, occurring in the watershed.

Wildlife habitat was evaluated at each of the structure sites using the Wildlife Habitat Evaluation Procedure developed for the Alabama River Basin. One or more 0.25-acre sample plots in each sediment basin were evaluated. On the basis of these sample plots the habitat ratings for four common game species are as follows:

Wildlife Habitat Rating

<u>Structure No.</u>	<u>Deer</u>	<u>Turkey</u>	<u>Squirrel</u>	<u>Quail</u>
1	Good	Fair	Fair	Poor
3	Poor	Fair	Fair	Poor
4	Good	Fair	Fair	Fair

With the installation of the structures there will be a permanent loss of 67 acres of upland habitat and 94 acres of bottomland habitat. In addition there will be the indefinite loss of 11 acres of upland habitat cleared for borrow material.

There is no published information recording a study of the fish population of Dynne Creek or its tributaries. A study of fishing streams (unpublished) was conducted by the Alabama Department of Conservation and Natural Resources about 1964. At that time, Dynne Creek was omitted from the list of streams which afforded some fishery.

To determine the composition of the fish population in Dynne Creek, biologists from the SCS and the Alabama Department of Conservation and Natural Resources in the fall of 1975, collected fish by seining at various locations along the creek. Species collected included redeye bass, bluegill, hog sucker, shiners, darters, chubs, and the sculpin. The largemouth bass was not collected, but it is assumed to be present because of periodic loss from farm ponds. The lower reaches (about 2 miles) of the creek supply 6.5 acres of fair stream fishing. Based on an average catch of one pound of fish per trip, these reaches of the stream could support 65-100 man-days of fishing annually. Fishes of endangered or threatened status were not found

RECREATIONAL RESOURCES

Recreational facilities are noticeably absent in Dynne Creek Watershed. Basically there are opportunities for hunting and fishing on privately owned land if one is able to obtain permission. At various times, there are about ten or twelve privately-owned farm ponds open to the public on a fee basis. Also, there are three floodwater retarding impoundments within a 30 minute drive of the watershed that offer limited recreation opportunities. Within an hours drive of the watershed there is, however, opportunity for a variety of outdoor recreational activities at Cheaha State Park, Talladega National Forest and West Point Reservoir. In addition, Alabama Power Company plans to impound the Tallapoosa River, creating a 10,660 acre lake about 20 miles south of Dynne Creek Watershed. These large recreation complexes are oriented more toward overnight and weekend visitors, and there is a lack of smaller day-use type facilities within the area.

ARCHAEOLOGICAL, HISTORICAL, AND UNIQUE SCENIC RESOURCES

The Alabama Historical Commission has listed the town of Arbacoochee as being eligible for inclusion in the National Register of Historic places. Arbacoochee, located in the northeastern part of the watershed, was originally an Indian village and later the scene of gold discovery and mining operations. There are no known sites of unique scenic value within the watershed.

Recently, the Alabama Historical Commission through a cooperative agreement with SCS studied the watershed for possible archaeological or historical sites that might be affected by the project. The results of the study indicate that no sites exist within the planned areas of construction or inundation (see appendix G).

SOIL, WATER AND PLANT MANAGEMENT STATUS

Land-use trends in the watershed are toward more grassland and cropland and less forest land; however, the rate of change is slow. Some idle cropland has recently been converted to other uses.

The Cleburne County Soil and Water Conservation District (District) has been providing technical assistance for land treatment throughout the county since 1940. Progress has been made in land treatment in the watershed; however, problems including frequent flooding, erosion, and limited capital resources still exist. These problems result in inefficient utilization of land, energy, capital and management.

The District is active in promoting conservation measures. Promotional activities include weekly newspaper articles on conservation activities and periodic television programs. They also publish a biannual conservation newsletter and an annual district progress report. They conduct conservation programs for schools and civic groups, sponsor an annual land judging contest for vocational agricultural students in the county, and either sponsor or co-sponsor field demonstrations and tours to promote the installation of conservation measures. These activities serve to inform land users and the general public about conservation services that are available, and conservation measures that have been accomplished.

There are 80 farms included in the watershed. Twenty-six of these farms are owned by commercial timber companies and used almost entirely for forest protection. One conservation plan has been developed on commercial timber land. Conservation plans have been prepared on 19 of the remaining 55 farms in the watershed. These plans make up a total of 3,117 acres. Conservation practices that have been planned and the percentage of planned practices now applied are as follows:

<u>Conservation Practice</u>	<u>Percent of Planned Practice Applied*</u>
Conservation Cropping Systems	70
Crop Residue Use	92
Drainage Field Ditch	34
Drainage Mains and Laterals	49
Grassed Waterways or Outlet	0
Pasture Land and Hayland Planting	90
Pasture Land and Hayland Management	84
Ponds	71
Terraces	72
Forest Improvement Cutting	6
Forest Site Preparation	100
Tree Planting	78
Forest Firebreaks	90

*As of October 22, 1975

Conservation practices have been applied on 2,020 acres of the land cover by conservation plans; this land is now considered to be adequately treated. An additional 6,460 acres of forest land, managed by commercial timber companies, are considered to be adequately treated. Another 5,341 acres are considered to be adequately protected.

About 49 percent of the forest land is owned by commercial timber companies. The management of this land is under the direction of professionally trained foresters.

Roadbank erosion rates have not been measured because monitoring procedures are very complex; however, similar conditions in Georgia have shown in excess of 150 tons of soil loss per acre each year. 17/

PROJECTS OF OTHER AGENCIES

There are no water resource development projects planned or being planned by other agencies within the Dynne Creek Watershed. This watershed is within and compatible with the Coosa Valley RC&D Project.

WATER AND RELATED LAND RESOURCE PROBLEMS

LAND AND WATER MANAGEMENT

Many farmers do not have the financial resources to install conservation measures at the rate they are needed. Low-income landowners or operators of small farms are inclined to use intense cropping systems that exceed the capability of the land.

Operators on small farms have less flexibility in adjusting to different crops and different land uses as supply and demand make such changes more desirable. The shifting of cropping systems and land uses brings on demands for changes in farm equipment and facilities. Owners of small farms usually cannot make efficient use of additional equipment; they generally purchase equipment for a certain farm system and continue with that same equipment year after year.

The scarcity of farm labor and a trend toward larger farm equipment have brought about demands for larger cropping fields. Many farmers have enlarged small fields to keep pace with these changes, but have frequently included areas that are not well suited to row cropping. These unsuitable areas are highly erosive and represent nearly 40 percent of the upland soils used for cropland.

Additional conservation practices are needed on most of the upland used for cultivated row crops. The need to accelerate conservation practices is greatest on the steeply sloping areas that have high erosion rates. Other problems associated with cropland on upland soils include low fertility, low water-holding capacity, and slopes that are unfavorable for use of modern farm equipment. These soils are well suited to pasture and forest; however, these uses produce a lower income per acre than cultivated crops.

The soils of the flood plain are influenced by flooding, seep water, high water table, scour, and sediment deposition. Problems associated with croplands include (1) physiological damage to plants from excess water and sediment; (2) added expenditures of labor, capital, and materials to replace seedbed and replant crops; (3) reduced quality and quantity of crops; and (4) frequent delays in harvesting and, occasionally, complete crop loss.

Grassland problems on the flood plain soils include (1) limitation of plant species that can be grown; (2) reduced quality and quantity of pasture; (3) restricted grazing periods; and (4) reduced life-span of pasture stands.

Bare, eroding roadbanks make up a significant portion of the erosion problems in the watershed.

Problems associated with forest lands include excessive damage from wildfire. The average annual burn over a recent 4-year period was 0.42 percent. A comparison of this record with the small watershed protection goal of 0.20 percent or less indicates a need for strengthening fire control activities. The generally poor hydrologic conditions of forest soils, and a low growth potential of many stands due to poor stocking, poor quality, and/or excessive competition are also problems of forest lands in the watershed.

The ability of land users to install and maintain conservation measures varies considerably throughout the watershed. In general, small farms with low annual returns will need both monetary and technical assistance to carry out a good land treatment program.

FLOODWATER DAMAGE

A major problem in the watershed is frequent flooding along Dynne Creek and its tributaries. A storm event expected to occur an average of one time in 100 years would flood 866 acres from the confluence of Dynne Creek and the Tallapoosa River, upstream to the sites of proposed floodwater retarding structures. Floods occur from one to five times each year with one to two normally occurring during the cropping season. Approximately 31 percent of the flood plain is row crops and 42 percent pasture. Row crops are primarily soybeans and corn. Approximately 24 landowners in the flood plain receive damages each year.

The flood plain is the most productive crop and pastureland in the watershed, with values of land and improvements ranging up to \$500 per acre. Flood plain farming has changed from row crops to more pastureland because of frequent flooding.

Management problems incurred in row cropping flood prone areas have resulted in reduced income potential and the shifting of crops from the flood plain to uplands. The quality of pasture and row crops is reduced because of frequent flooding. This is reflected in the lower nutritional value and palatability of pasture grasses and lower yields of row crops.

The frequency of damaging floods during the growing season (April through November) varies in different stream reaches from an average of one event in three years to two events per year. Floodwaters damage crops and pasture and frequently destroy fences and cattle crossings. Flooding increases production costs and decreases yields. Planting and harvesting are often delayed as a result of flooding. Pastures are damaged from frequent inundation with the result being a loss of grazing time and an inferior grazing crop.

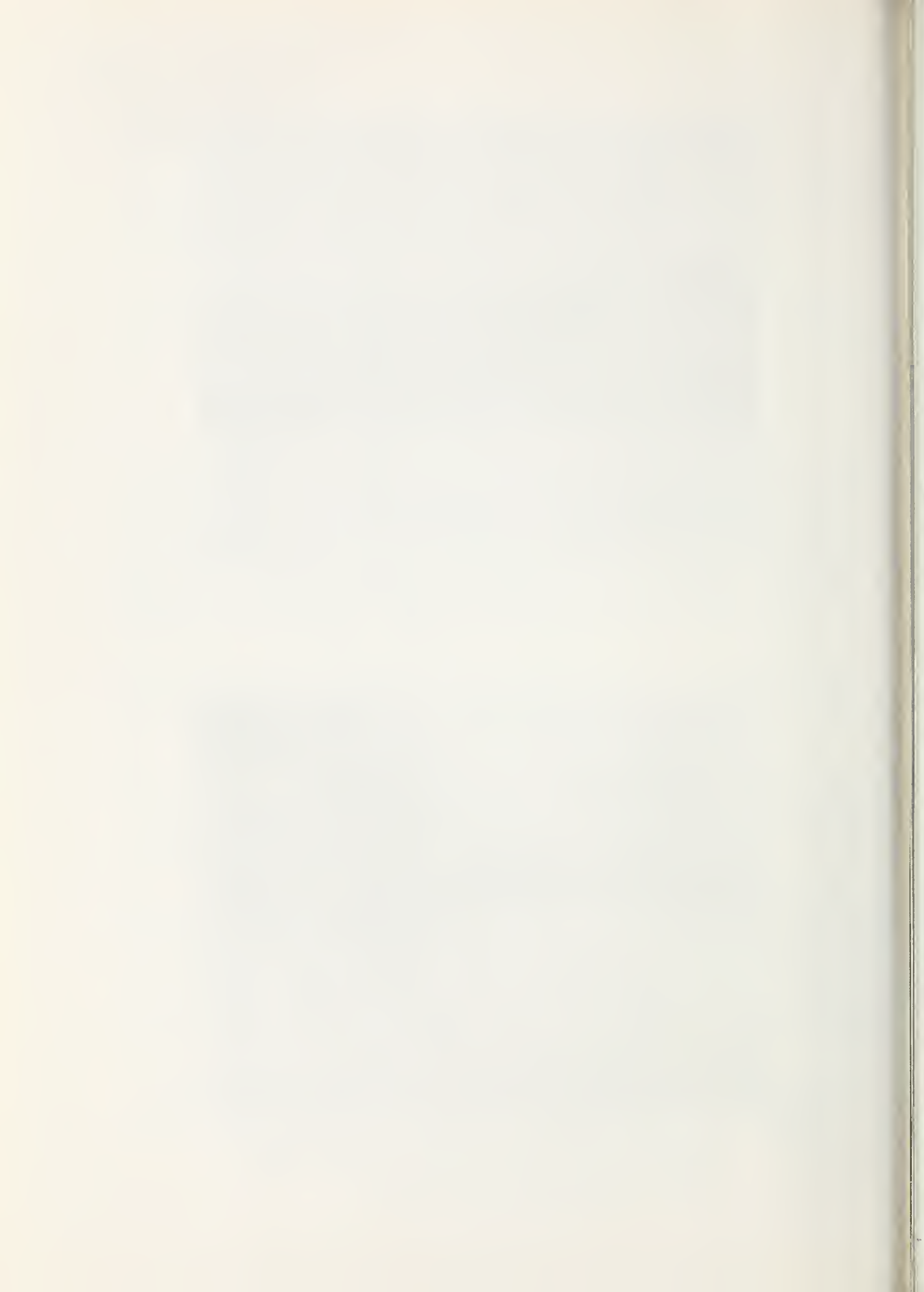
Floodwater damages to roads and bridges cause the county additional expenses each year. Indirect damages, such as delayed rural mail delivery and re-routing of traffic, occur as a result of flooding.



Flooding of cropland along Dynne Creek near
Co. Road 19.



Flooding of county road near the confluence
of Dynne Creek and the Tallapoosa River from
a 6-inch rainfall in March 1976.



Average annual flood damages are estimated as follows: crop and pasture, \$11,000; other agriculture, \$5,500; road and bridge, \$3,300; indirect, \$3,230. Most damages occur during the months of March, April, and May, when spring rains damage fields and crops in the early planting and growing season. Cropland usually has a poor vegetative cover during this period of the year.

Acreage flooded (by depth increments) as a result of storms of various frequencies is as follows:

	Acres Flooded			
	Increment of Depth (Feet)			
Storm Frequency	0-1	1-3	3 plus	Total
0.25-year	13	0	0	13
0.5-year	153	31	0	184
1-year	365	97	0	462
2-year	462	194	0	656
5-year	349	406	4	759
25-year	146	613	73	832
100-year	98	579	189	866

A storm occurring an average of one time per year floods approximately one-half as much area as a storm occurring an average of one time in 100 years. A two-year storm floods three-fourths as much area as a 100-year storm, etc.

Flood waters do not directly threaten the lives or health of people in the watershed; however, indirectly they pose a threat due to roads and bridges being inundated by floodwaters.

EROSION DAMAGE

Based on estimates using the Universal Soil-Loss Equation, gross erosion rates for the watershed under present conditions are as follows:

Cropland	20.15	tons/acre/year
Pastureland	1.87	tons/acre/year
Forest Land	2.82	tons/acre/year
Other Land	8.40	tons/acre/year

Gully and streambank erosion in the watershed is insignificant; however, roadbank erosion occurs on about 32 acres and is a significant sediment-producing source, (see Appendix F). Flood plain erosion or scour damages occur on 83 acres, causing an estimated damage of \$690 annually. These damages occur as a result of out-of-bank flow. This reduces the productivity of these acres by 10 to 30 percent.

Sheet erosion causes practically all the erosion damage in the uplands. Sheet erosion reduces fertile top soil and exposes the less fertile, more easily eroded subsoil to the forces of wind and water. Average gross erosion on the upland cropland is greater than the maximum soil-loss tolerance. On this cropland, productivity cannot be sustained economically for an indefinite period if the present rate of erosion continues.

SEDIMENT DAMAGE

Sediment production from the watershed is moderate. During periods of overbank flow, fine sediment is deposited on crops and pasture causing an estimated damage of \$540 annually. Deposits of this type on 105 acres of the flood plain have reduced the productivity on these acres by 10 to 40 percent.

Storm runoff has a high concentration of suspended sediment, especially during periods of land preparation. Sediment is deposited in field and road ditches where slopes or vegetation reduce the velocity of run-off water. This sedimentation can be prevented by proper maintenance.

Average annual sediment yield at the mouth of the watershed is about 19,500 tons or 609 milligrams per liter.

DRAINAGE PROBLEMS

Drainage problems occur on small areas scattered throughout the watershed. These areas are predominantly on the Riverview-State-Sylacauga soil association, (see Appendix D), and are being used for pasture. These areas are producing at about 70-80 percent of their capability. Poor drainage limits the species of pasture plants that can be grown and intensifies weed problems.

The existing capacity of Dynne Creek and its tributaries is adequate to allow individual landowners to install on-farm drainage systems. Drainage mains and laterals and drainage field ditches are needed to solve the drainage problems. These practices can be applied as part of the landowners conservation land treatment program.

MUNICIPAL AND INDUSTRIAL WATER PROBLEMS

The present water supply is not adequate to meet existing and future water demands. Each town or community in the county that has a water system is experiencing problems in meeting present or future water needs. Ranburne has a very small system where they are extracting water from a stream, treating the water, and distributing it to customers; however, the supply is extremely limited, maybe 50,000 gallons per day.

Based on current water availability (including water storage in the Cahulga Creek Watershed Project) of 2.17 MGD and a projected need of 5.55 MGD by the year 2020, 3.38 MGD will be required to provide for the anticipated water needs. There is a definite problem in finding a water source that will deliver such a volume. In 1970, the Geological Survey of Alabama completed an evaluation of ground water resources in the Piedmont Area of Alabama. In that test, 11 wells were drilled at preselected sites to supplement and verify information gained in previous studies. The purpose of those investigations was to evaluate previous studies on areas for ground water development. The attempts to locate a reliable source of ground water in Cleburne County failed, even in wells drilled to depths of 250 feet. Therefore, to obtain the large quantity of water needed, a surface water source is required.

RECREATION PROBLEMS

There are about 10,000 people living within 15 miles of the watershed (see Appendix B-2). The Alabama Statewide Comprehensive Outdoor Recreation Plan (SCORP) indicates a need in District 4 for picnic tables, playgrounds, and field sports areas. District 4 is comprised of Cleburne County and nine other surrounding counties. The SCORP indicates a surplus of water for fishing, motor boatings, and nature trails. However, these facilities are concentrated in the northern and southern extremities of the district and are not readily accessible to residents in and around Dymke Creek watershed. Public facilities to satisfy the demand of this populas for recreational activities similar to those proposed in this project are almost nonexistent. The demand (of 10,000 people) for selected recreation facilities is expressed in activity-occasions and number of facilities in the following table:

<u>Activity</u>	<u>Occasions per Capita</u>	<u>Total Activity- Occasions</u>	<u>Number of Facilities</u>
Picnicking	4.15	40,150	100 tables
Fishing	8.95	89,950	4,500 acres
Boating (non-powered)	.35	3,500	5 acres

<u>Activity</u>	<u>Occasions per Capita</u>	<u>Total Activity- Occasions</u>	<u>Number of Facilities</u>
Playgrounds	3.87	38,700	19 acres
Nature trails	.23	2,300	.5 mile
Field Sports Area	3.94	39,400	20 acres

The SCORP was used to establish per capita demand for selected recreation activities since the population in the vicinity of the watershed is similar to the aggregate population of District 4 in age, sex, race, and economic level. The need for additional water-based recreation was established by subtracting demand from supply. Needs were calculated in activity occasions and converted to numbers of facilities using standardized factors.

PLANT AND ANIMAL PROBLEMS

The water and related land resource problems in the watershed have only a slight effect on changes in plant communities. Flooding, drainage, and sediment problems result in very slow changes to more water tolerant plant species in the flood plain. High erosion rates on upland soils used for cropland contribute slightly to a change in distribution of idle land.

With the loss of open land and the increase in pine timber production, wildlife habitat and wildlife diversity have gradually declined over the past 25-30 years. There has been a noticeable decline of game animals such as rabbit and quail that are associated with more open land.

Illegal hunting and fishing continue to present a problem. The illegal harvesting of game animals through methods such as night-lighting, baiting, and electronic devices has plagued game populations, especially during recent years.

For various reasons, privately owned lands are being posted and are unavailable for public use.

WATER QUALITY PROBLEMS

There are no records on the water quality of Dynne Creek from other government agencies. As mentioned in the Environmental Setting Section of this report, the SCS evaluated certain water quality parameters in 1975 and found that of the parameters analyzed, sedimentation in the streams would be the only apparent water quality problem.

Fertilizers, pesticides, and herbicides do not have a significant effect on downstream water quality in the watershed. Only if such chemicals are added to croplands immediately preceding a large storm with heavy runoff

will the water quality be affected. Even then the dilution factor would limit the impact. Since fertilizers and other chemicals are applied only during one or two days of the year, the probability of such applications occurring in conjunction with a heavy runoff-producing storm are slight. (See the further discussion on this topic under conservation land treatment in the section entitled Environmental Impact).

There are no sources of manmade pollution entering Dynne Creek.

ECONOMIC AND SOCIAL PROBLEMS

The small family farm is the primary source of livelihood. There are 80 farms or parts of farms in the watershed averaging about 124 acres per farm. Most of these farms are low-income units with supporting income derived from off-farm employment.

Approximately 57 percent of all farms in Cleburne County has annual gross sales of less than \$2,500 according to the 1974 Census of Agriculture, Preliminary Report. Farms in the watershed are typical of farms throughout the county. None of the farms in the watershed utilizes as much as one man-year of hired labor annually.

Incentives for good pasture and cropland management in the flood plain are limited as a result of flooding. Land use has also been restricted. Fields that were once used for crops have long since changed to pasture or forest to avoid crop losses.

Employment opportunities are limited and chances for improvement are remote for the people in the watershed. There is a definite need for more employment opportunities and rural development in the watershed.

Present health and medical facilities as described in the Environmental Setting Section - Economic Resources Subsection are insufficient for the population of the area they serve. Additional facilities are needed to meet the present demand and increases in demand generated by an expected increase in population in the future.

Educational facilities are adequate for elementary students; however, the county's two high schools are over capacity.

RELATIONSHIP TO LAND USE PLANS, POLICIES, AND CONTROLS

There are no federal, state, or local land use plans, policies, or controls in effect for Cleburne County, Alabama, at the present time.

ENVIRONMENTAL IMPACT

CONSERVATION LAND TREATMENT

The planned accelerated land treatment program includes 2,122 acres expected to be adequately treated during the installation period. This includes 300 acres of cropland, 365 acres of pasture and hayland, 1,410 acres of forest land, and 47 acres of other land. An additional 1,320 acres are expected to be adequately protected.

Crop production will be sustained on lands where conservation practices are applied. The practices will result in the land retaining more water for plant use. ^{18/} There will be a reduction in soil losses from erosion resulting in soils with better physical properties, increased nutrient supply, and improved biological activities. Implementation of conservation plans will result in the use of agricultural plants that are better suited to soil conditions.

The treatment of 32 acres of eroding roadbanks will reduce sediment delivered to the streams from these areas by 64 percent. Sediment in drainage ditches will be reduced by an equal amount and aesthetic qualities will be improved.

Pasture and cultivated row crop yields will be increased on the flood plain because of reduced flooding and sediment deposition, and as a result of treating critical areas and eroding cropland.

Sediment damage accumulation will be reduced on 105 acres each year. Other benefits are reducing the likelihood of having to replant or plant late, enabling landowners to produce higher yields and better quality crops, and reducing crop loss from flooding.

Reduced flooding will result in increased income for watershed residents by allowing more efficient use of available land resources.

Improved drainage will result in lowering the water table; thereby improving tillage, allowing a better selection of plants and/or crops, and a longer growing season for pasture plants. Also, land preparation, planting, cultivating, and harvesting will not have to be delayed as a result of improved drainage.

Research has provided some understanding of the processes involved in fertilizer and chemical movement from soils to ground and surface waters, but the technology has not advanced to the point that valid quantitative estimates can be made.

Nitrogen and phosphorus are the fertilizing elements most frequently related to water quality. These elements are transferred from soil to water by soil erosion and resulting sediment, surface runoff, and leaching. However, the pollution potential will be negligible when applications of fertilizers are made at recommended rates through the conservation land treatment program.

Chemical pesticides are removed from agricultural areas by runoff water and eroded soil particles. Conservation measures will reduce runoff and erosion rates, and will result in reducing the movement of pesticides as well as plant nutrients.

The expected changes in land use after project installation are as follows:

<u>Watershed</u>		
<u>Land Use</u>	<u>Future Without Project (Ac.)</u>	<u>Future With Project (Ac.)</u>
Cropland	905	960
Pasture and Hayland	1,543	1,605
Forest Land	13,635	13,524
Other Land	517	511
	<u>16,600</u>	<u>16,600</u>

<u>Flood Plain (Benefited Area)</u>		
<u>Land Use</u>	<u>Present (Ac.)</u>	<u>Future With Project (Ac.)</u>
Cropland	276	385
Pasture and Hayland	370	314
Forest Land	200	153
Other Lands	20	14
	<u>866</u>	<u>866</u>

A small increase in watershed cropland will be directly related to the project. A reduction in flooding will result in additional land being used for crops in the flood plain. It is anticipated that some upland now being used for cultivated crops will be converted to pasture.

An increase in pasture and hayland is expected as a result of conservation planning. Some forest land in the flood plain will be converted to crops or pasture and some will be occupied by structural measures.

The application of the conservation land treatment measures will reduce the estimated average annual gross erosion rates as follows:

LAND USE	SOIL-LOSS (TONS/ACRE)		REDUCTION (PERCENT)
	PRESENT	W/PROJECT	
Cropland	20.15	9.14	55
Pastureland	1.87	1.32	29
Forest Land	2.82	2.01	29
Other Land	8.40	6.30	25

At the end of the installation period, the erosion rates on some of the cropland will still not be within the accepted soil-loss tolerance level of about 4 tons per acre per year. This is due to the inability of land users to apply some of the planned conservation land treatment measures and make needed land use changes.

Sediment accumulation on the flood plain is moderate. This accumulation will be reduced by about 60 percent. Conservation land treatment will reduce average annual sediment yield at the mouth of the watershed from 19,500 tons to 14,300 tons, a reduction of 27 percent. Sediment concentrations will drop from 609 milligrams per liter to 368 milligrams per liter.

Direct storm runoff will be reduced an estimated four to five percent as a result of conservation land treatment. Even though land treatment will not be performed on each acre, ground water storage is expected to increase by about five percent during periods of wet weather. This increased storage will be temporary since the ground water will gradually seep into the streams during periods of low flow.

The land treatment program will slightly increase employment opportunities within the immediate area. The installation of measures such as drainage mains and laterals and critical area treatment will provide some limited local employment. This employment will help improve economic conditions within the watershed.

Conservation land treatment will have a slight effect on the aesthetics of the watershed. The installation of land treatment practices and critical area treatment will result in lines, forms, and patterns that are more harmonious with the natural landscape.

STRUCTURAL MEASURES

There will be a loss of 161 acres of terrestrial wildlife habitat, mostly forest land, and a displacement of the associated animal life as a result of installing the three impoundments. This will not significantly alter

any public hunting or fishing opportunities as the acreage to be changed is not available to the general public. The acreage of terrestrial habitat to be flooded represents a potential of 161 man-days of hunting. The existing habitat is rated as fair for most upland game animals.

About 161 acres of lake-type aquatic habitat will be created by the project. This flat water habitat will replace 1.7 miles of stream that does not support a game fishery resource. One impoundment of approximately 127 acres will be open to the general public.

There are no fish migrations of importance in the Dynne Creek System. The only spawning movement noted during field investigations was that of the Least Brook Lamprey, Lampetra aepyptera. Proposed structural locations will not affect these migrations to any appreciable extent.

Discharge from the structures may have a slight warming effect on that portion of the stream immediately below the structure.

Installation of a 50-acre recreational area adjacent to structure No. 4 will provide facilities for 25,000 annual recreation visits. This park will provide opportunities for fishing, boating, picnicking and a variety of field sports.

About 0.15 miles of roads will be closed due to inundation by structure No. 4 (see Appendix B). Closing the road will cause a minor inconvenience to a family by increasing the distance to Heflin by about three miles.

The environmental impact of the municipal and industrial water supply and treatment and distribution system will be multi-faceted. The economic portion of the impact will be relative to the new industries and expansion of existing industries that the water system will bring into the area. These new industries will raise the standard of living and reduce unemployment in the area. Property values will increase, thereby increasing the tax base of the county. The most important impact will be having an adequate supply of clean water for present and future needs. The project will insure future homeowners and potential industries that water of good quality will be available.

Emissions from construction equipment will have a slight detrimental effect on ambient air quality. Of the six common classes of pollutants, the particulate matter, carbon monoxide, nitrogen oxides, and hydrocarbons will increase slightly during construction.

Noise pollution will increase during construction because of heavy equipment used in project installation. Visitation to the park will increase traffic by as much as 175 to 200 vehicles on peak-use days. There will be an increase in the noise level in and around the park area, but the impact should be insignificant considering the sparse population and the heavily wooded area surrounding the park.

The project will greatly reduce flooding and resulting flood damages. Acres flooded by depth increment and storm frequency for both without-project and with-project conditions are as follows:

Acres Flooded Without Project

Storm Frequency	Depth Increment (feet)			Total
	0 - 1	1 - 3	3 plus	
0.25 - Year	13	0	0	13
0.5 - Year	153	31	0	184
1 - Year	365	97	0	462
2 - Year	462	194	0	656
5 - Year	349	406	4	759
25 - Year	146	613	73	832
100 Year	98	579	189	866

Acres Flooded With Project

Storm Frequency	Depth Increment (feet)			Total
	0 - 1	1 - 3	3 plus	
0.25 - Year	2	0	0	2
0.5 - Year	30	0	0	30
1 - Year	97	20	0	117
2 - Year	197	51	0	248
5 - Year	339	103	0	442
25 - Year	409	250	1	660
100 - Year	308	392	22	722

The reduction in flooding will enable more intensive cultivation of the flood plain. Average annual flood damages will be reduced approximately 69 percent. There will be no changes in the natural conditions of stream channels, including oxbows and meanders. Water temperature of perennial streams should not be significantly affected.

It is estimated that flood protection will have the effect of converting 109 acres of flood plain land into row crop production. Present land use of these acres is 56 acres of pastureland, 47 acres of forest land, and 6 acres of idle land.

The project will increase the real estate tax base, especially on the acres made available for agricultural use. This increased tax base will help provide additional funds for a higher standard of living.

The structural measures, in combination with land treatment, will reduce sediment yield by 40 percent at the mouth of the watershed.

Erosion damage is occurring on 83 acres of the flood plain. These 83 acres will return to their original productive capacity in about 10 years following project installation.

ECONOMIC AND SOCIAL

The project will serve as a stimulus to the economy by providing new employment opportunities. Installation of the three structures will create an estimated 39 man-years of employment during the 5-year installation period. The accelerated land treatment program will create an estimated three man-years of employment. An additional two man-years of employment will be needed to operate and maintain the project each year throughout the project life (100 years). Operation and maintenance of the project will have a continuing favorable effect on the local economy. The proposed project will not result in any distinctive negative impacts upon minority persons.

Additional income will be received by the laborers employed during construction and by farmers from the increased sales of farm products as a result of damage reduction and agricultural enhancement. The increased purchase of items and services required to produce and market the expanded production represents new income to local farm supply dealers, transporters, and processors.

The new income will generate additional consumer expenditures for basic necessities, items which improve their standard of living, and other goods and services. Business activity in other sectors of the local economy and region will increase as this new income is spent and respent.

The improved economic climate will enable the community to better support new or improved schools, parks, roads, health facilities, and other public projects that will add to the enjoyment of life.

The project will affect the local agricultural economy by increasing farm income in four ways: (1) reducing the likelihood of having to replant or plant late, (2) reducing crop losses from floods, (3) enabling farmers to produce higher yields and better quality crops, and (4) improving the conditions for harvesting crops. Soybeans and corn are important crops in the watershed. They require planting at the proper time for maximum yields. Researchers have concluded that "soybean yields can decline nearly 3 bushels per acre for each 10-day delay in planting after the first of May. Corn yields decline more than soybeans when planted after May 15". 19/

Reduced flooding will result in increased income for watershed residents by allowing more efficient use of available land resources. Land use adjustments can be made and better management practices applied that do not deplete the soil of essential nutrients. Flood reduction and land treatment will result in increased yields, requiring more hired labor to produce and harvest the added production. Increased yields result in more income, some of which will be spent at retail outlets. Added expenditures will require added sales personnel.

Knowledge of the protection afforded by the project will give residents a greater sense of economic security. Families can offer their children greater incentives to continue their education and remain in the community. The family farm pattern of agriculture will be strengthened which will help maintain population stability.

The M&I water storage will provide rural Cleburne County with a good, inexpensive water source. The water supply is expected to attract industries to the area, thus providing employment opportunities.

The recreational development will enhance the social well-being in the area by supplying needed recreational opportunities. It will not only eliminate idle hours but also will provide enjoyment and relaxation for the population of the area.

With an increase in employment opportunities and recreational facilities, the population should increase. This increase in population should result in an increase in the number and type of medical and health care facilities since many medical specialists will not set up practice in an area until a certain population density is reached. Also, the increase in population should result in more school facilities being built with the additional tax revenues generated by the increased work force.

FAVORABLE ENVIRONMENTAL IMPACTS

The favorable environmental impacts are summarized as follows:

1. Sediment yield at the mouth of the watershed will be reduced by 40 percent.
2. Sediment accumulation on the flood plain will be reduced by 60 percent.
3. Flood plain erosion damages will be reduced, allowing 83 acres to return to original productive capacity in about 10 years.
4. The three impoundment sites will create 161 acres of diverse aquatic habitat and will support about 8,035 man-days of fishing.
5. The recreational development at structure No. 4 will provide day-use facilities for 25,000 recreation-day visits annually.
6. Average annual flood damages will be reduced approximately 69 percent.
7. Project installation will create 39 man-years of employment during the 5-year installation period and 2 man-years of employment for the 100-year life of the project.
8. Increased production will occur on existing cropland and pastureland.
9. There will be an increase in the real estate tax base.
10. Farm incomes will increase as will the social and economic standards of living.
11. The scenic and aesthetic qualities of the watershed will be improved.
12. The project will provide 2,055 acre feet of municipal and industrial water supply.
13. The project will result in an additional 2,122 acres of land being adequately treated and 1,320 acres adequately protected.
14. There will be an increase in forest fire protection.
15. The aquatic environment will be improved due to sediment reduction.

ADVERSE ENVIRONMENTAL IMPACTS

1. The project will result in the loss of 161 acres of terrestrial habitat and a displacement of indigenous animal populations.

2. There will be a temporary increase in stream sediment during construction.
3. Discharges from the structures is expected to slightly increase stream temperatures immediately downstream from the impoundments.
4. The project will result in the closing of 0.15 miles of a dirt road.
5. Ambient air quality will decrease slightly and noise will temporarily increase during construction.
6. Forty-seven acres of flood plain forest land will be cleared for crops and pasture.
7. The project will result in the loss of 210 acres of forest land due to construction of three structures, and possible damage to 120 acres of forest land in the flood pools of structures due to temporary inundation during floods.

ALTERNATIVES

Alternatives considered during the formulation of the selected plan were of two basic types: those which would satisfy component needs identified by publics for national economic development (NED) and environmental quality (EQ), and those which would further reduce or eliminate adverse impacts to the environment resulting from the selected plan.

The identified component needs for NED and EQ are described in the Project Objectives section and the adverse impacts resulting from installation of the selected plan are described in the preceding section.

The selected plan will satisfy all the identified component needs for both NED and EQ objectives; however, it will cause minor adverse impacts to some components of the EQ objective. Therefore, an alternative plan was developed which deleted those elements whose primary function was to contribute to the NED objective. This alternative consists of accelerated conservation land treatment. The accelerated land treatment alternative consists of the same land treatment measures as described in the selected plan, and impacts would be the same as those shown for the land treatment portion of the selected plan. The land treatment would be applied and financed by local landowners with technical assistance provided by the Soil Conservation Service and the Alabama Forestry Commission in cooperation with the U. S. Forest Service.

Both favorable and adverse impacts created by the installation of the structural measures would be foregone. The estimated cost of this alternative would be \$190,600.

This alternative was found to be viable and is compared with the selected plan in Appendix A, Table B. A viable alternative is one which can be implemented with assistance under existing USDA authorities and for which a public body has expressed a capability to implement.

Another alternative considered which would eliminate or reduce the adverse environmental impacts of the selected plan is no project. There would be no accelerated land treatment program under this alternative, but the ongoing land treatment program would continue.

In order to maintain soil productivity, landowners would eventually install the necessary land treatment measures. Since the land treatment measures would be delayed, the impact of these measures in reducing erosion and sediment damages would also be delayed. The flooding would continue, along with resulting floodwater and erosion problems. The agricultural damages in monetary terms would continue to increase as the prices for farm products rise. The average annual sediment yield at the mouth of the watershed would be reduced by 15 percent.

This alternative would not require any land clearing or any excavation. All of the resources would be allowed to remain in their present condition. It is estimated that \$102,900 net annual benefits would be foregone.

SHORT TERM VS. LONG TERM USES OF RESOURCES

The proposed watershed project will encourage greater agricultural use of land in the flood plain and will encourage better agricultural management. Conservation land treatment will protect the soil and help conserve its productivity for future generations. The project will reduce flood problems immediately and, with planned maintenance, will allow more diversified flood plain use for future generations.

A total of seven watershed projects are in various stages of development within the Tallapoosa River sub-basin. The Tallapoosa River sub-basin is a part of the Alabama Water Resource Subarea.

Watershed projects that are planned and under construction are Cahulga Creek, Crooked Creek, Ketchopedrakce Creek, Lost Creek,* High Pine Creek,* and Old Town Creek. The total drainage area of these projects, including Dynne Creek, is about 300,000 acres. This represents about 10 percent of the total drainage area of the Tallapoosa River.

These projects will have a cumulative effect of reducing the suspended sediment transported by the Tallapoosa River. Flooding along the Tallapoosa River will also be reduced an insignificant amount. Flood protection will encourage land use changes which will allow more land to be used within its capabilities.

The cumulative effect of increased sediment transport during construction is expected to be insignificant because of the various stages of construction of each project.

*These projects have already been installed.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

An estimated 240 acres of land will be permanently committed to the installation of this watershed project. Lands needed for installation of the structures are as follows:

LAND COMMITTED TO STRUCTURES

	<u>Structure No. 1</u>	<u>Structure No. 3</u>	<u>Structure No. 4</u>	<u>Total</u>
Dam & Spillway	9	8	12	29
Permanent Pool	14	20	127	161
Recreation Facilities	-	-	50	50
Total	<u>23</u>	<u>28</u>	<u>189</u>	<u>240</u>

Land use within the 240 acres of land committed to the project is as follows:

LAND COMMITTED TO STRUCTURES

<u>Land Use</u>	<u>Acres</u>
Pasture	30
Forest	<u>210</u>
Total	<u>240</u>

Structures Nos. 1 and 3 will involve only forest land. Structure No. 4 will inundate approximately 30 acres of pastureland.

All land required for temporary storage of flood water is in woods and totals 120 acres (Str. 1, 26 acres; Str. 3, 45 acres; Str. 4, 49 acres).

Project installation will require a commitment of 39 man-years of labor during the 5-year installation period. An additional two man-years of labor will be committed during each year of project life (100 years) for operation and maintenance.

Production lost on the land committed to the project is expected to be offset by benefits that will be realized as a result of this commitment.

CONSULTATION AND REVIEW WITH APPROPRIATE AGENCIES AND OTHERS

GENERAL

Action on the Dynne Creek Watershed project was initiated when the local sponsoring organization applied for planning assistance to the Alabama State Soil and Water Conservation Committee in December 1965. Their application was approved on March 10, 1966, and preliminary investigations were initiated to determine project feasibility.

A preliminary investigation report indicating a feasible plan for watershed protection and flood prevention was presented to the sponsors and interested individuals on September 5, 1968. Planning objectives were discussed in detail at this meeting.

A request for planning authorization was made to the Administrator of the Soil Conservation Service and approved on November 11, 1968. Federal and State agencies were informed by letter of planning approval and their assistance in watershed planning was requested.

On February 19, 1969, a field review of the watershed was held by representatives of the U. S. Fish and Wildlife Service, Alabama Department of Conservation, and Soil Conservation Service to study fish and wildlife aspects of the watershed. A report was later prepared by the Soil Conservation Service as a result of the field review. This report was used in plan formulation.

A public meeting was held on July 15, 1971. The meeting was attended by representatives of Federal, State, and local agencies; sponsors; and interested individuals. The purpose of the meeting was to receive inputs from the various publics toward a proposed project plan. All concerned agencies were notified by letter and legal notice was served in local newspapers prior to the meeting. Project purposes and objectives were discussed along with considerations for environmental quality.

The project sponsors indicated a desire to store municipal and industrial water for future needs during a meeting held June 11, 1973. The SCS agreed to evaluate M&I water storage as a project objective and explained to the sponsors their responsibilities.

At a meeting held on February 11, 1974, it was decided to include M&I water storage and floodwater retardation in structure No. 4. Representatives of the Extension Service and Farmers Home Administration were present. The sponsors agreed to apply for a FHA loan to help finance their portion of installing the plan.

An engineering firm was engaged by the sponsors to study the needs for storing water in structure No. 4. The engineering firm's report stated that the quantity and quality of water which could be stored in structure No. 4 would meet the sponsors' objectives.

On August 22, 1975 the sponsors held a meeting and indicated a desire to include recreation as an objective of the project. The sponsors requested that SCS include a recreation park at structure no. 4 as a part of the project.

The Alabama Historical Commission made an intensive archaeological and historical survey of the watershed. Based on that survey, the planned watershed project will have no adverse affects on the historical and archaeological resources within the project area.

The sponsors have carried on an active public information program in an effort to keep the public informed of project formulation.

DISCUSSION AND DISPOSITION OF EACH COMMENT ON THE DRAFT EIS

The following federal and state agencies and concerned groups and individuals were asked to comment on the draft plan and environmental impact statement:

<u>COMMENTS REQUESTED</u>	<u>COMMENTS RECEIVED</u>
Department of Agriculture-Office of Equal Opportunity	X
Department of the Army	X
Department of Commerce	
Department of Health, Education and Welfare	X
Department of Housing and Urban Development	X
Department of the Interior	X
Department of Transportation	
Environmental Protection Agency	X
Federal Power Commission	
Alabama Attorney General	X
Alabama Development Office	
State Soil & Water Conservation Committee (also Governor's designated representative)	X
Alabama Department of Conservation and Natural Resources	
State Health Department	
East Alabama Regional Planning and Development Commission	X
Alabama Forestry Commission	
Geological Survey of Alabama	X
Alabama State Highway Department	
Alabama State Department of Education	

COMMENTS REQUESTED

Alabama Commissioner of Agriculture
Alabama Historical Commission
Alabama Water Improvement Commission
Alabama Association of Soil and Water
Conservation Districts
Appalachian Regional Commission
Auburn University, Cooperative Extension
Service
Auburn University, Alabama Cooperative
Fisheries Unit
University of Alabama, Department of
Anthropology
University of Georgia, Department of
Agricultural Economics
Natural Resources Defense Council
National Wildlife Federation
Alabama Wildlife Federation
Environmental Defense Fund
Friends of the Earth
National Audubon Society
Alabama Archaeological Society
The Alabama Conservancy
Sierra Club
Alabama Sportsman Conservation Club
Bradley, Arant, Rose and White; Attorneys
Richard K. Smith, Birmingham, Alabama
Bob Truett, Birmingham, Alabama

COMMENTS RECEIVED

Comments and Responses

Each issue, problem, or objection is summarized or quoted and a response given on the following pages. The letters of comment are attached as appendix C.

U. S. Department of the Army

1. Comment Summary: There are several areas within the draft plan Economic Benefits section where more detail of the derivations could add substantially to reader comprehension of the benefit appraisal.

Response: The Economic Benefits section of the plan has been modified to clarify the derivations of benefits. The reader should also consult the Environmental Setting, Water and Related Land Resource Problems, and the Environmental Impact sections of the EIS for physical data concerning the problems and impacts. Table 6 of the plan should be referred to for the estimated monetary benefits to be derived from changes in land use and intensification.

2. Comment: "Scientific names should be underlined."

Response: Scientific names have been underlined throughout the document.

3. Comment: "Rare and endangered species should be discussed."

Response: The EIS has been modified to indicate no threatened or endangered organisms, as shown in the Federal Register, are known to exist in watershed.

4. Comment Summary: The EIS does not have a section on Probable Adverse Environmental Effects which cannot be avoided.

Response: The data is shown in the Adverse Environmental Effects subsection of the Environmental Impact Section. No change in EIS necessary.

5. Comment Summary: The EIS does not have a section on interests and considerations of Federal Policy which are thought to offset the adverse environmental effects of the proposed action.

Response: Reexamination of the EIS indicates that the document adequately covers the material that was suggested to be included. Although a special section discussing this subject is not included in the EIS, information can be found in the sections titled "Project Objectives, Alternatives, and Short Term vs Long-Term Uses of Resources," which when considered in total,

adequately describe the interest and consideration of federal policies which are thought to offset the adverse effects of the proposed actions. Therefore, no changes were made in the EIS.

6. Comment Summary: It appears that the first paragraph under Animal Resources may belong under the earlier discussion "Forest".

Response: Noted. Paragraph has been deleted.

7. Comment Summary: The "1974 Agricultural Census" by counties which became available in October 1976 could be used in the Economic and Social Problems discussion.

Response: Changes have been made to make reference to the 1974 Census of Agriculture, Preliminary Report.

U. S. Department of Health, Education, and Welfare

1. Comment Summary: The final EIS should contain the present availability of health, educational and infrastructure facilities for the present population. Also, appropriate projections of future needs and facilities to meet these needs.

Response: Additional information has been included in the Environmental Setting, Water and Related Land Resource Problems, and the Environmental Impact sections.

U. S. Department of Housing and Urban Development

1. Comment Summary: The Department reviewed the draft EIS and did not find any effect which the project would have upon HUD related activities.

Response: Noted, no response needed.

U. S. Department of the Interior

1. Comment: "Our review indicates the proposal as described would have no significant adverse effect upon fish and wildlife resources, mineral production or geological conditions."

Response: Noted, no response needed.

2. Comment: "The statement indicates there will be 25,000 annual recreation visits to the proposed park site at structure No. 4. We believe that derivation of this figure by blanket application of a 10,000-population figure to Alabama's State-wide Comprehensive Outdoor Recreation Plan (SCORP) activity occasions per capita can be misleading." A more accurate estimate would include an analysis and disaggregation of the population by age and related socioeconomic factors as well as the influence of competing recreational resources available. Considering the number of available facilities, the final EIS should explore the possibility that a surplus of facilities already exist in the area and reevaluate the projected annual visits.

Response: The EIS has been modified to show that the local population is comparable with the state-wide population as far as demands for recreation. The EIS was modified to say that existing facilities were considered in scoping the project development and estimating visitation.

3. Comment Summary: Average annual recreation benefits are shown as \$50,000. At 25,000 visits annually each visit is valued at \$2, which is in the upper bracket of the \$0.75 to \$2.25 range provided for under the Principles and Standards. The analytical approach and methodology utilized in arriving at this estimate should be portrayed in the appendix to the statement.

Response: The use of \$2 per visit was established considering the facilities available for use at the recreation development. These facilities as described under Planned Project offer a diversity of quality recreational opportunities to visitors. Considering these facilities and the Principles and Standards range of \$0.75 to \$2.25, the use of \$2.00 per visit should not be considered inappropriate. The Service does not consider it appropriate to include analytical work showing the derivation of projects as appendices of the EIS. Therefore, no changes have been made in the EIS.

4. Comment Summary: The EIS should contain a small scale map which includes major roads, cities, and towns in the area.

Response: A map has been added as appendix B-2 and referred to throughout the document.

Office of Equal Opportunity (USDA)

1. Comment Summary: No specific mention of the effects of the project on minority persons was made in the draft EIS. The final EIS should discuss the effects of the project on minority persons living in the affected area.

Response: The Environmental Impact Section, Economic and Social Subsection has been revised to reflect this point.

U. S. Environmental Protection Agency

1. Comment: "A good account is given of present water quality values and the evaluated effects of the project on water quality."

Response: Noted, no response needed.

2. Comment: "We believe the draft EIS is adequate as presented and have rated the action LO (Lack of Objections) and the Impact Statement Category 1 (Adequate)."

Response: Noted, no response needed.

East Alabama Regional Planning and Development Commission

1. Comment Summary: "We would suggest that a source reference and/or methodology be supplied with the following figures:

- \$24,260 estimated average annual floodwater, sediment erosion, and indirect damage
- \$61,700 average annual benefit for M&I water
- \$50,000 average annual benefit for recreation
- \$11,700 average annual benefit for changed land use
- \$12,900 average annual benefit for intensified land use"

Response: The subject data was developed during plan formulation by SCS using SCS procedures which are contained in national handbooks published by the Service. As pointed out in the Preface, all information and data, except as otherwise noted by footnotes or references, was collected during watershed planning investigations by the SCS and the USFS, USDA.

2. Comment: "According to the Alabama State Outdoor Recreation Plan, there are 37 recreational sites within a 15-mile radius of the project which could possibly be providing similar facilities. In view of this, we would suggest some justification be shown for claiming 25,000 recreation visits annually to the recreation area at FRS 4."

Response: See response to comment number 2, U. S. Department of the Interior.

3. Comment: "If it is within the scope of SCS's economic analysis, we would suggest a single table summarizing all cost to be borne by the co-sponsors. This should include a reasonable rate of interest for any portion of the project installation costs which the co-sponsors would have to finance over time. It should also include annually incurred expenses such as administration and operation and maintenance."

Response: The table in the Planned Project Section, Project Costs subsection has been footnoted to more fully describe sponsors costs. Also, a statement concerning interest on any money the sponsors borrow has been added to the Installation and Financing Section, Financing Subsection. Table 4 displays the annual costs of the project.

4. Comment: "As written, the alternatives section of the draft does not adequately illustrate the time and effort spent in formulating and evaluating alternatives to the proposed project."

Response: It is not the purpose of the Alternatives section to illustrate the time and effort spent in formulating and evaluating alternatives. Rather the purpose of this section is to describe the alternatives considered in achieving the project objectives and to minimize or eliminate adverse impacts. Therefore, no change was made in the EIS.

Alabama State Soil and Water Conservation Committee

1. Comment: "The State Soil and Water Conservation Committee has reviewed the 'combined draft plan and draft environmental impact statement' for the 'Dyenne Creek Watershed', located in Cleburne County, Alabama, and finds same to be in proper order."

Response: Noted, no response needed.

Alabama Attorney General

1. Comment Summary: The project should be evaluated based on a 50-year life instead of the 100-year life used. The Federal District Court for northern Alabama directed SCS to use a 50-year life instead of a 100-year in the Blue Eye Creek project.

Response: Policies and criteria applicable to watershed projects planned and carried out under Public Law 566 are set forth in the Watershed Protection Handbook (WPH). The Economics Guide describes relevant Soil Conservation Service procedures for the economic evaluation of watershed projects.

The Water Resources Council's "Principles and Standards also dictates and guides the establishment of these policies and criteria. The following quotations from these references provides the basis for use of the 100-year evaluation period:

SCS Watershed Protection Handbook

"In comparing benefits with costs, the time period shall be limited to (1) the expected useful economic life of the project, or (2) a period of 100 years, whichever is less."

SCS Economics Guide

"For purposes of project formulation and evaluation, the period to be used for estimating project benefits and costs should not exceed project economic or effective physical life or 100 years beyond the completion of project installation, whichever is less." (Chapter 1, page 8)

The Water Resources Council's "Principles and Standards"

"The period of analysis shall be the lesser of:
(1) the period of time over which the plan will serve a useful purpose considering probable technological trends affecting various alternatives; or (2) the period of time when further discounting or beneficial and adverse effects will have no appreciable result on design." (38FR24822)

The elements planned in the Dyrne Creek Watershed are designed to produce a constant stream of benefits over the 100 year evaluation period. The sediment storage in floodwater retarding structures 1, 3, and 4 is designed to contain the sediment expected to be accumulated during the 100-year period. With the maintenance that has been planned for this project, the structures should operate as designed and provide projected benefits over the life of the evaluation period.

2. Comment Summary: FRS 1 and FRS 3 are to be erected on private land. There should be provisions for public use of these structures or they will become private fish ponds erected at public expense.

Response: Additional land rights providing for public access would have to be acquired by the sponsors in order to provide public access to the reservoirs. Also, minimum facilities such as sanitary, access roads, etc. would have to be installed and maintained by the sponsoring local organization in order

for the public to use the reservoirs. The sponsors decided not to provide public access due to the cost of the above requirements.

3. Comment Summary: "Land treatment measures alone were not sufficiently treated in sufficient detail to give a reader enough data to evaluate that method. The EIS should correct that defect."

Response: Additional information has been included in the Planned Project Section, Land Treatment subsection.

Geological Survey of Alabama

1. Comment Summary: The draft plan/EIS does not contain a listing of the aquatic plants and animals in the watershed.

Response: Description of the plant and animal resources of the watershed can be found in the Environmental Setting Section, Plant Resources and Animal Resources Subsections. A review of these sections of the EIS indicated the plant and animal resources were adequately described in view of the scope of the project.

2. Comment Summary: The draft plan/EIS does not contain a list of endangered plants or animals found in the area.

Response: See response to comment number 3, U. S. Department of the Army.

3. Comment: "The sections on geology, mineral and water resources is sketchy."

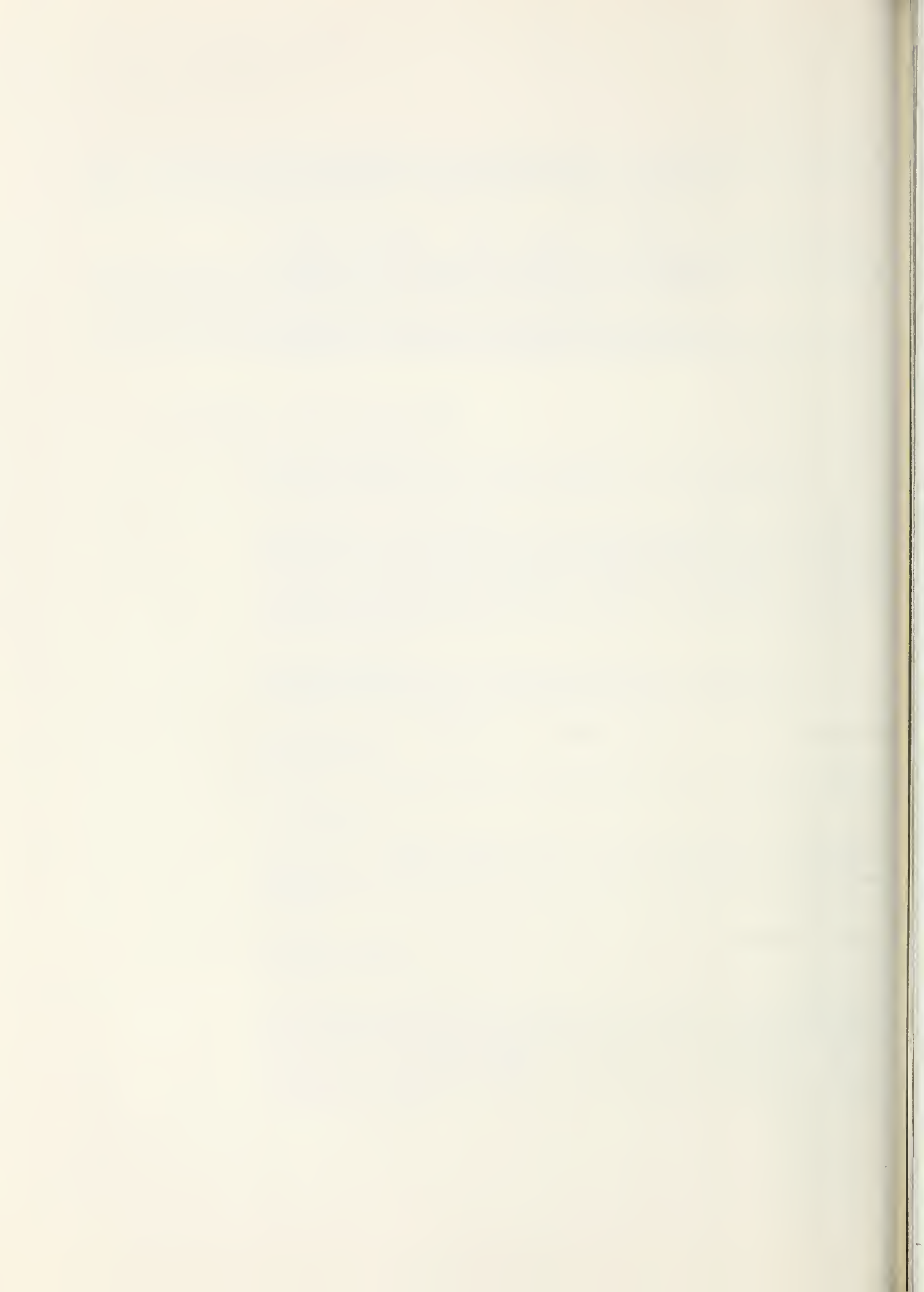
Response: These sections were reviewed and are considered adequate for the scope of this water and resource development project.

4. Comment: "The area has not been checked for possible important fossil sites."

Response: The structure sites were surface investigated by SCS geologists. The Alabama Historical Commission did a historical and archaeological survey of the watershed (see appendix G) for SCS through a cooperative agreement. No evidence of existing fossils was found as a result of these investigations.

5. Comment: "Of the total \$1,942,730 cost of the project, over half will be spent on Dam 4 (\$792,000) and recreational facilities (\$292,000). Their role in watershed protection is very limited."

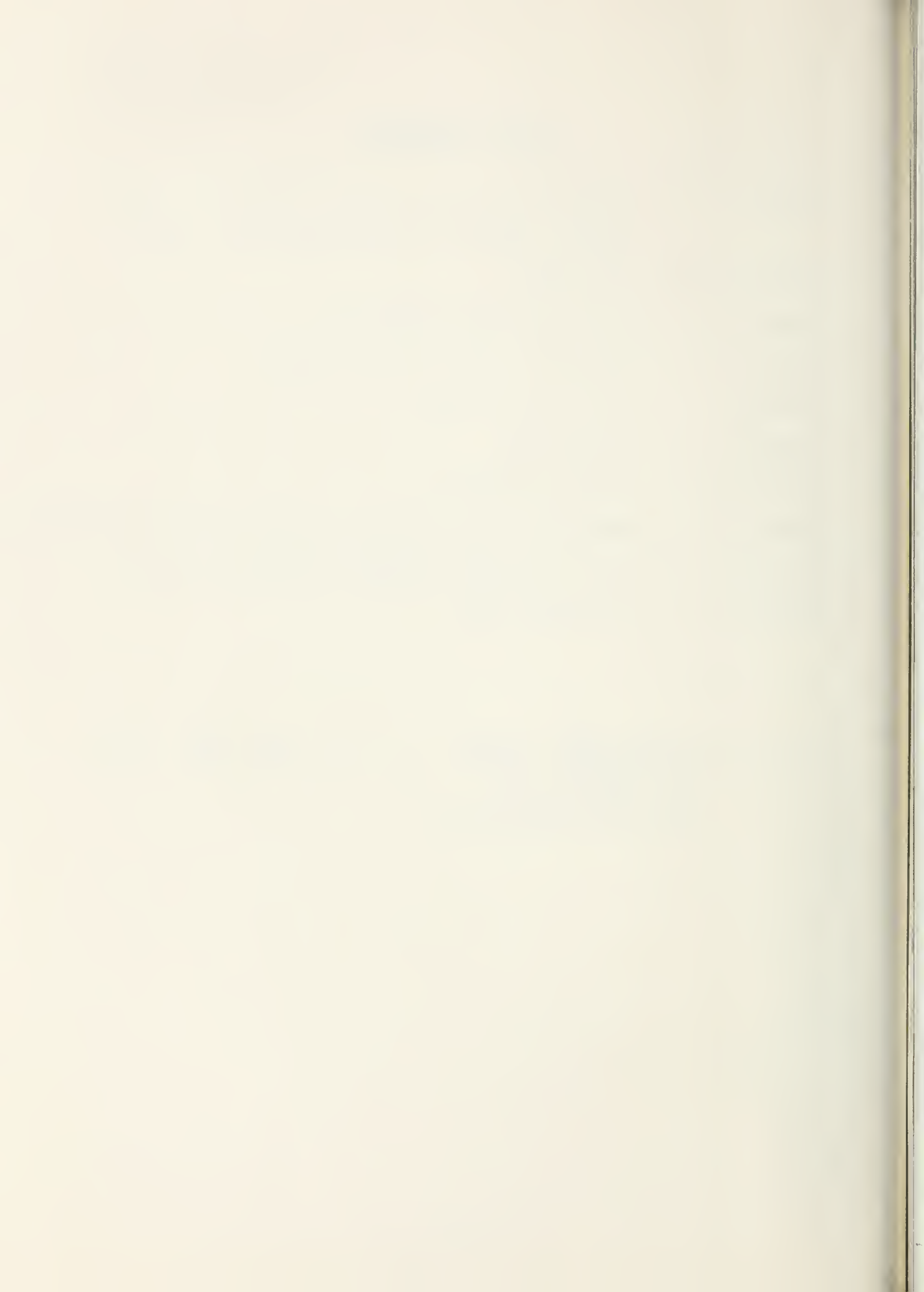
Response: No changes in the EIS is needed. The project as formulated serves four purposes (Watershed protection, flood prevention, municipal and industrial water, and recreation). Multiple purpose Structure No. 4 is for the purposes of flood prevention, municipal and industrial water, and recreation.



LIST OF APPENDICES

APPENDIX A	-	Display Accounts for Selected Alternative - Table A
	-	Summary Comparison of Alternative Plans - Table B
APPENDIX B	-	Project Map
APPENDIX B-1	-	Recreational Development Map
APPENDIX C	-	Letters of Comment on Draft Document
APPENDIX D	-	Soil Association Map
APPENDIX E	-	Land Use Map
APPENDIX F	-	Critical Area Map
APPENDIX G	-	Historical and Archaeological Survey of Dynne Creek Watershed
APPENDIX H	-	Section of Typical Floodwater Retarding Structure
APPENDIX I	-	Literature Cited

Approved By W B Lingle Date JUL 7 1977
W. B. Lingle
State Conservationist
Soil Conservation Service



APPENDIX A

SUMMARY TABLES

TABLE A - Display Accounts for Selected Alternative

TABLE B - Summary Comparison of Alternative Plans



TABLE A - DISPLAY ACCOUNTS FOR SELECTED ALTERNATIVE

SELECTED ALTERNATIVE
NATIONAL ECONOMIC DEVELOPMENT ACCOUNT
Dynne Creek Watershed, Alabama

Components	Measures of effects (Average Annual) 1/2/	Components	Measures of effects (Average Annual) 1/2/
Beneficial effects:		Adverse effects:	
The value to users of increased outputs of goods and services		The value of resources required for a plan:	
1. Flood prevention	\$16,600	1. Multi-purpose reservoir, floodwater retarding structures and recreational facilities	
2. M&I water storage	\$61,700	Project Installation	\$94,000
3. Recreation	\$50,000	OM&R	\$15,600
4. Changed land use	\$11,700		
5. More intensive land use	\$12,900		
6. Utilization of unemployed and underemployed labor resources		2. Project administration	\$11,900
Project construction	\$24,300		
Total beneficial effects	<u>\$177,200</u>	Total adverse effects	<u>\$121,500</u>

Net beneficial effects \$55,700

NOTE: Land treatment beneficial effects were not evaluated. Land treatment costs are \$198,420.

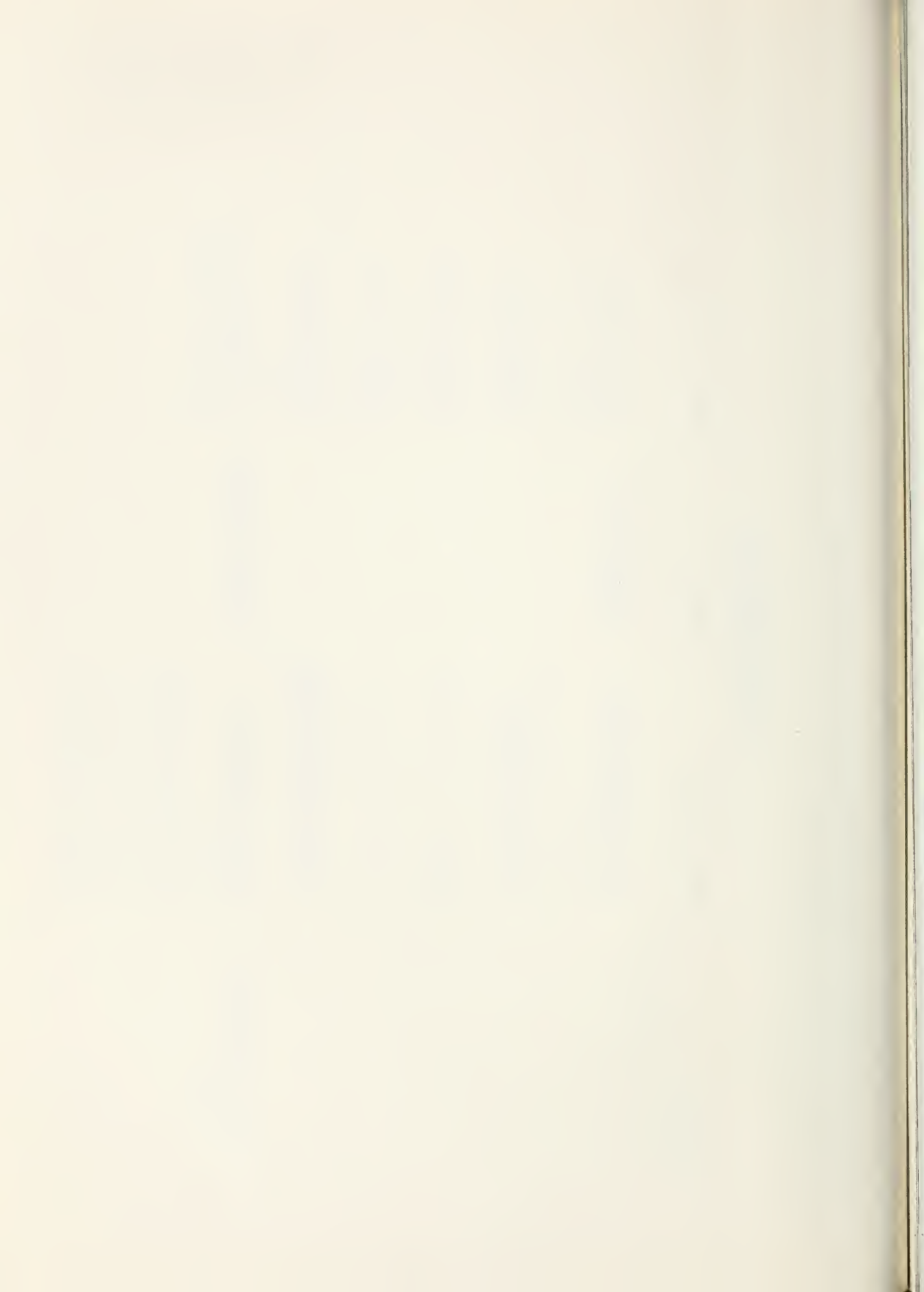
1/ 100 years @ 6 1/8 percent interest

2/ Price base: 1976



SELECTED ALTERNATIVE
ENVIRONMENTAL QUALITY ACCOUNT
Dyenne Creek Watershed, Alabama

<u>Components</u>	<u>Measures of effects</u>	<u>Components</u>	<u>Measures of effects</u>
Beneficial and adverse effects:			
A. Areas of natural beauty.	<ol style="list-style-type: none"> 1. Accelerated conservation land treatment will enhance the physical appearance of 16,600 acres. 2. Provide a full supply of water for municipal & industrial use by county residents. 3. Create lakes with 161 surface acres. 4. Inundate 161 acres of land. 5. Disrupt the tranquility of rural environment by 25,000 recreation-day visits annually. 	C. Biological resources and selected ecosystems.	<ol style="list-style-type: none"> 1. Land treatment will enhance wildlife habitat & food supply & improve aesthetic qualities. 2. Provide 161 acres resting area at the reservoirs for migratory waterfowl. 3. Inundate 1.7 miles of stream having limited fish population. 4. Inundate 133 acres of woodland wildlife habitat. 5. Inundate 28 acres of pastureland which provides limited habitat for wildlife.
B. Quality consideration of water, land, and air resources.	<ol style="list-style-type: none"> 1. Reduce sediment by 40 percent at the mouth of watershed. 2. Reduce sediment accumulation on flood plain by 60 percent. 3. Improve scenic quality of critically eroded road banks. 4. Enhance fire protection on 13,636 acres of forested land. 	D. Irreversible or ir retrievable commitments.	<p>Conversion of 240 acres of forest land and pastureland to reservoir pools, dams, spillways, etc.</p>



SELECTED ALTERNATIVE
REGIONAL DEVELOPMENT ACCOUNT
Dymne Creek Watershed, Alabama

<u>Components</u>		<u>Measures of effects</u>		<u>Components</u>		<u>Measures of effects</u>	
<u>Income:</u>		<u>State of</u>	<u>Rest of</u>	<u>Income:</u>		<u>State of</u>	<u>Rest of</u>
		<u>Alabama</u>	<u>Nation</u>			<u>Alabama</u>	<u>Nation</u>
<u>Beneficial effects:</u>		<u>(Average Annual) 1/2/</u>		<u>Adverse effects:</u>		<u>(Average Annual) 1/2/</u>	
A. The value of increased output of goods & services to users residing in the region				A. The value of resources contributed from within the region to achieve the outputs			
1. Flood prevention	\$16,600	0		1. Multipurpose reservoir & flood water retarding structures			
2. M&I water	\$61,700	0		Project installation	\$37,800	\$38,900	
3. Recreation	\$45,000		\$5,000	OM&R	2,000	0	
4. Changed land use	\$11,700	0					
5. More intensive land use	\$12,900	0		2. Recreation facilities			
6. The utilization of regional unemployed or underemployed labor resources				Project installation	8,650	8,650	
Project construction	\$24,300	0		OM&R	13,600	0	
7. Additional wages & salaries accruing to the region for implementation of the plan	4,000			3. Project administration	5,600	6,300	
OM&R							
B. The value of output to users residing in the region from pecuniary external economics				B. Loss of assistance payments from sources outside the region to otherwise unemployed or underemployed resources			
				Loss of welfare payments	-2,400	+2,400	
Indirect activities associated with increased net returns from flood prevention and recreation	\$138,000			Total adverse effects	\$65,250	\$56,250	
				Net beneficial effects	\$248,950	-\$55,250	
Total beneficial effects	\$314,200		\$1,000				

1/ 100 years @ 6 1/8 percent interest

2/ Price base: 1976

SELECTED ALTERNATIVE
REGIONAL DEVELOPMENT ACCOUNT (CONTD)
Dyenne Creek Watershed, Alabama

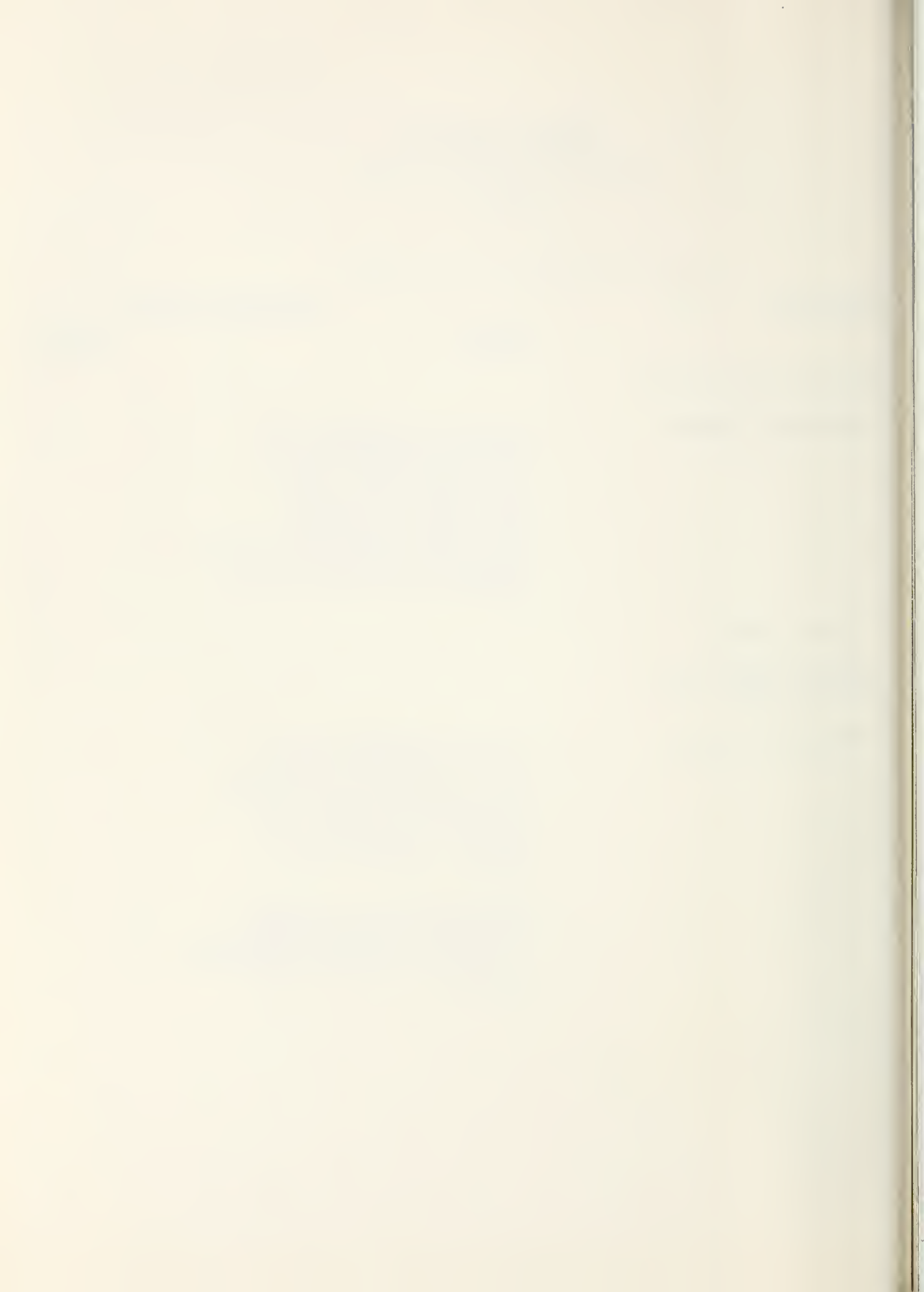
Components	Measures of effects		Components		Measures of effects	
	State of Alabama	Rest of Nation	Employment	Adverse effects:	State of Alabama	Rest of Nation
Beneficial effects:						
A. Increase in the number & types of jobs				Decrease in number and types of jobs		
1. Agricultural employment	Utilization of 3 man-years of employment in agricultural production	-		Loss in agricultural employment of project take area	.5 man-year of agricultural employment	-
2. Employment for project construction	39 semi-skilled jobs during 5 year inst. period	-				
3. Employment for project ON&R	2 permanent semi-skilled jobs	-				
4. Employment in land treatment construction	3 semi-skilled jobs during 5 year inst. period	-				
5. Indirect & induced employment for project installation & output of project's goods & services	5 permanent semi-skilled jobs	-				
				Total adverse effects	.5 permanent semi-skilled jobs	-
Total beneficial effects	10 permanent semi-skilled jobs	-				
	42 semi-skilled jobs during 5 year inst. period	-		Net beneficial	9.5 permanent semi-skilled jobs	-
					42 semi-skilled jobs during 5 year inst. period	-

SELECTED ALTERNATIVE

REGIONAL DEVELOPMENT ACCOUNT
(Contd.)

Dynne Creek Watershed, Alabama

<u>Components</u>	<u>State of Alabama</u>	<u>Measures of effects</u>	<u>Rest of Nation</u>
Population Distribution			
Beneficial effects	Creates 10 permanent semi-skilled jobs, and 42 semi-skilled jobs during the 5 year installation period primarily in an isolated rural area which has experienced a one percent increase in population in the last 10 years.		--
Adverse effects	--		--
Regional Economic Base and Stability			
Beneficial effects	Creates 10 permanent semi-skilled jobs and 42 short-term semi-skilled jobs in an area where 52 percent of the families have incomes less than the national poverty level.		--
	Provide sufficient municipal and industrial water storage to attract industrial development and promote employment opportunities.		--



SELECTED ALTERNATIVE

SOCIAL WELL-BEING ACCOUNT

Dynne Creek Watershed, Alabama

Components

Measures of effects

Beneficial and adverse effects:

A. Real income distribution

1. Create 10 low to medium income permanent jobs for area residents.
2. Create average annual regional income benefit distribution of \$181,200 in an area where 52 percent of rural population is below poverty level.
3. Average annual local costs to be borne by region total \$65,250.

B. Life, health and safety

1. Reduce average annual flood damages by 69 percent.
2. Increased output of food and fiber with some land use changes.

C. Recreational Opportunities

1. Creates 25,000 recreation-day visits annually, primarily for a rural farm population.

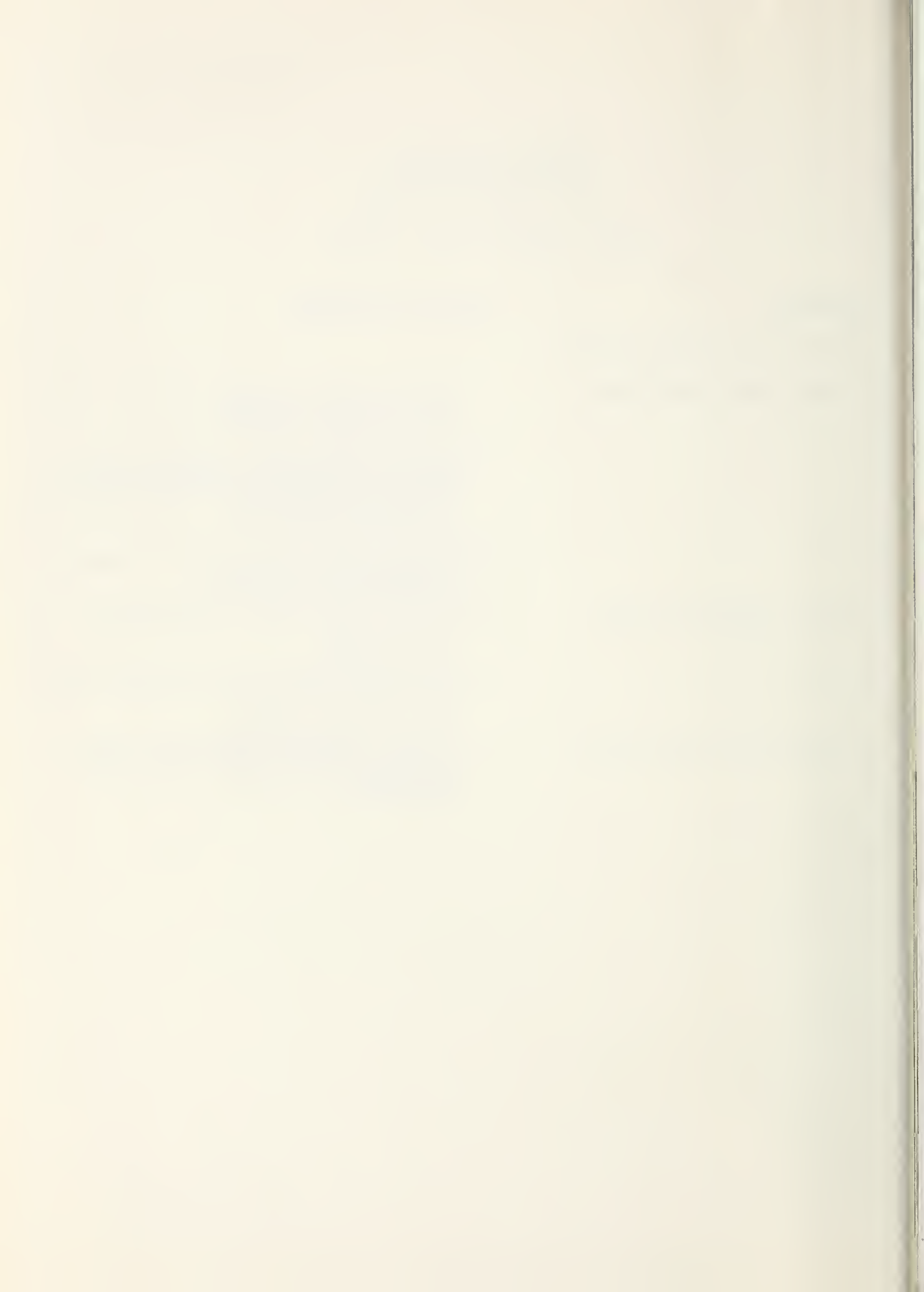
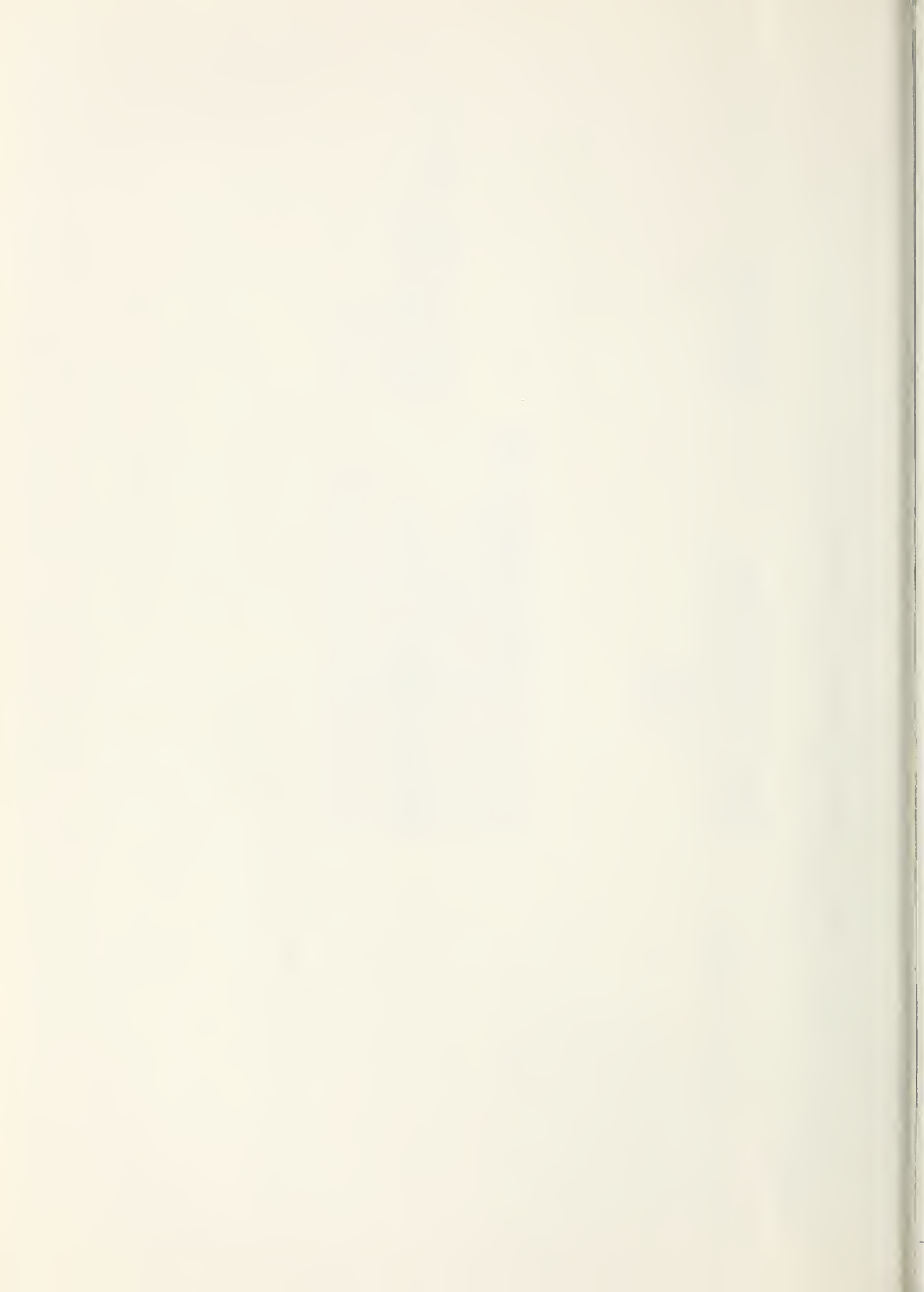


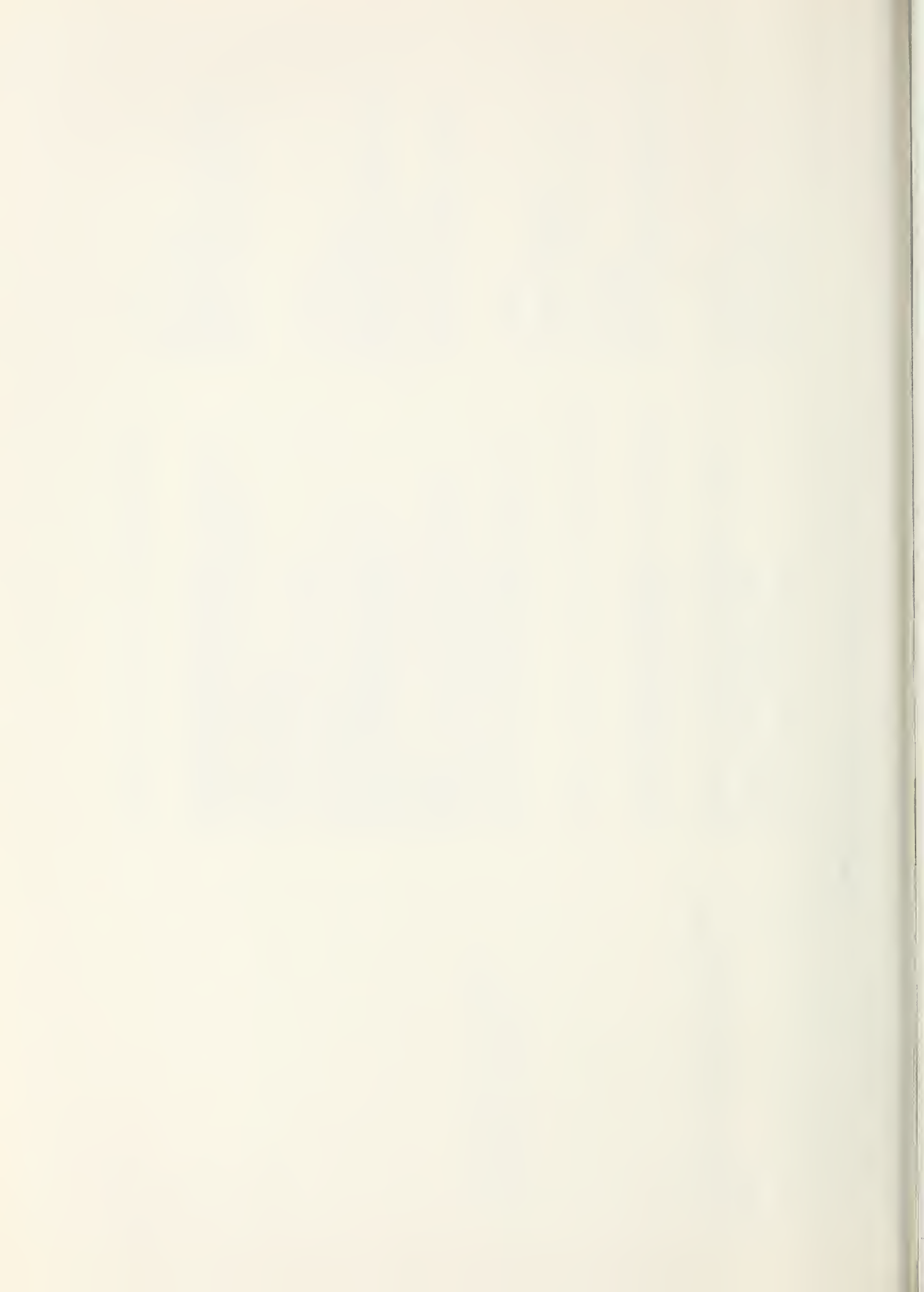
TABLE B - SUMMARY COMPARISON OF ALTERNATIVE PLANS

<u>ACCOUNT</u>		<u>Selected Plan and National Economic Development Plan 1/</u>	<u>Environmental Quality Plan</u>
<u>National Economic Development</u>			
Beneficial Effects		\$177,200	0
Adverse Effects		121,500	0
Net Beneficial Effects		55,700	0
<u>Environmental Quality</u>			
Beneficial and Adverse Effects:			
A. Areas of Natural Beauty			
		Create a multi-purpose impoundment with 127 surface acres and two single purpose structures with 34 surface acres.	No effect
		Improve watershed aesthetics with land treatment and critical area stabilization.	Improve watershed aesthetics with land treatment and critical area stabilization.
		Create recreational day-use facility.	No effect
1/ Selected plan and NED plan are the same.			



SUMMARY COMPARISON OF ALTERNATIVE PLANS (Cont'd)

<u>Account</u>	<u>Selected Plan and National Economic Development Plan</u>	<u>Environmental Quality Plan</u>
B. Quality Considerations of Water, Land, and Air Resources	<p>Reduce flooding by 69 percent on 866 acres of flood plain land.</p> <p>Reduce sediment deposition by 40 percent at the mouth of watershed.</p> <p>Improve aesthetic values of land resource.</p>	<p>No Effect</p> <p>Reduce sediment deposition by 27 percent at the mouth of watershed.</p> <p>Improve aesthetic values of land resource.</p>
C. Biological Resources and Selected Ecosystems	<p>Create 161 acres of surface water for waterfowl resting areas.</p> <p>Improve and create upland wildlife habitat.</p> <p>Improve stream ecosystems by reducing suspended sediment by 40 percent.</p> <p>Inundate 2 miles of stream wildlife habitat.</p> <p>Improve 13,635 acres of woodland wildlife habitat by forest management and reduced forest fires.</p> <p>Inundate 161 acres of wildlife habitat.</p>	<p>No Effect</p> <p>Improve and create upland wildlife habitat.</p> <p>Improve stream ecosystems by reducing suspended sediment by 32 percent.</p> <p>No Effect</p> <p>Improve 13,635 acres of wildlife habitat by forest management and reduced forest fires.</p> <p>No Effect</p>



SUMMARY COMPARISON OF ALTERNATIVE PLANS (Continued)

Selected Fish and Wildlife Economic Development Plan

Environment
Quality Program

Account

Regional Development

State of Alabama

A Income
Beneficial Effects
Adverse Effects
Net Beneficial Effects

\$219,400
65,250
154,150

0
0
0

B. Employment
Project Construction

42 semi-skilled jobs during 5-year
installation period

3 semi-skilled jobs during
5-year installation period

Project OM&R

2 permanent semi-skilled jobs

No Effect

Agricultural Employment

3 permanent semi-skilled jobs

No Effect

Indirect and Induced Employment

5 permanent semi-skilled jobs

No Effect

Social Well-Being

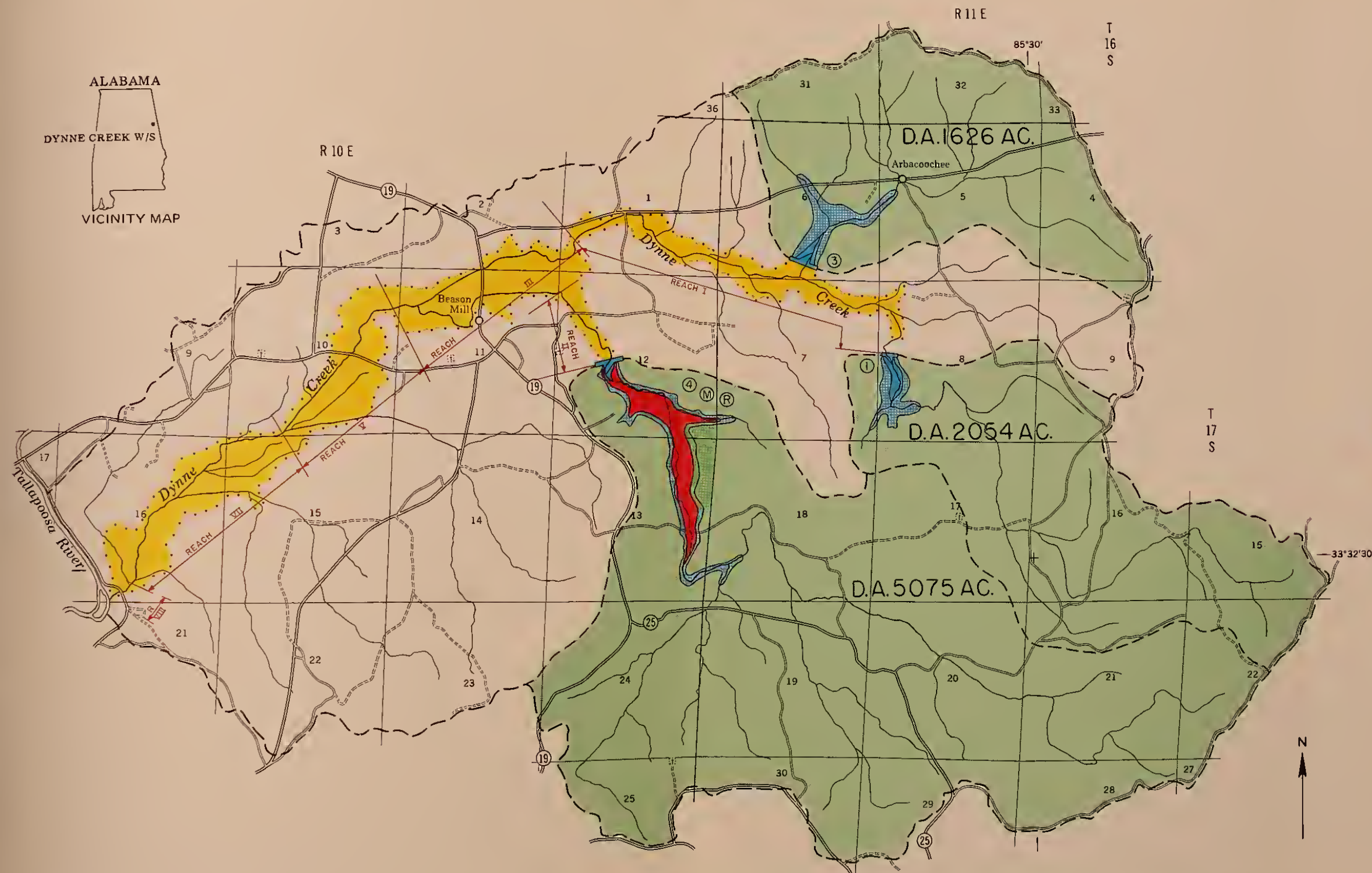
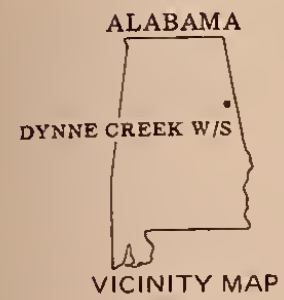
Provide 69 percent flood damage reduction
on 866 flood plain acres

No Effect

Provide 25,000 water based recreational
visits

No Effect

NOTE: Land treatment beneficial effects were not evaluated. Land treatment costs are the same for all plans.



- BASE LEGEND**
- PRIMARY ROAD
 - SECONDARY ROAD
 - UNIMPROVED ROAD
 - COUNTY ROAD NUMBER
 - DRAINAGE
 - TOWN
 - CEMETERY
 - WATERSHED BOUNDARY

- PROJECT LEGEND**
- BENEFITED AREA
 - DRAINAGE AREA CONTROLLED BY STRUCTURE
 - FLOODWATER RETARDING STRUCTURE
 - MULTIPURPOSE STRUCTURE
 - STRUCTURE NUMBER
 - MUNICIPAL
 - RECREATION
 - RECREATION DEVELOPMENT AREA
 - EVALUATION REACH

APPENDIX B
PROJECT MAP
DYNNE CREEK WATERSHED
CLEBURNE COUNTY, ALABAMA

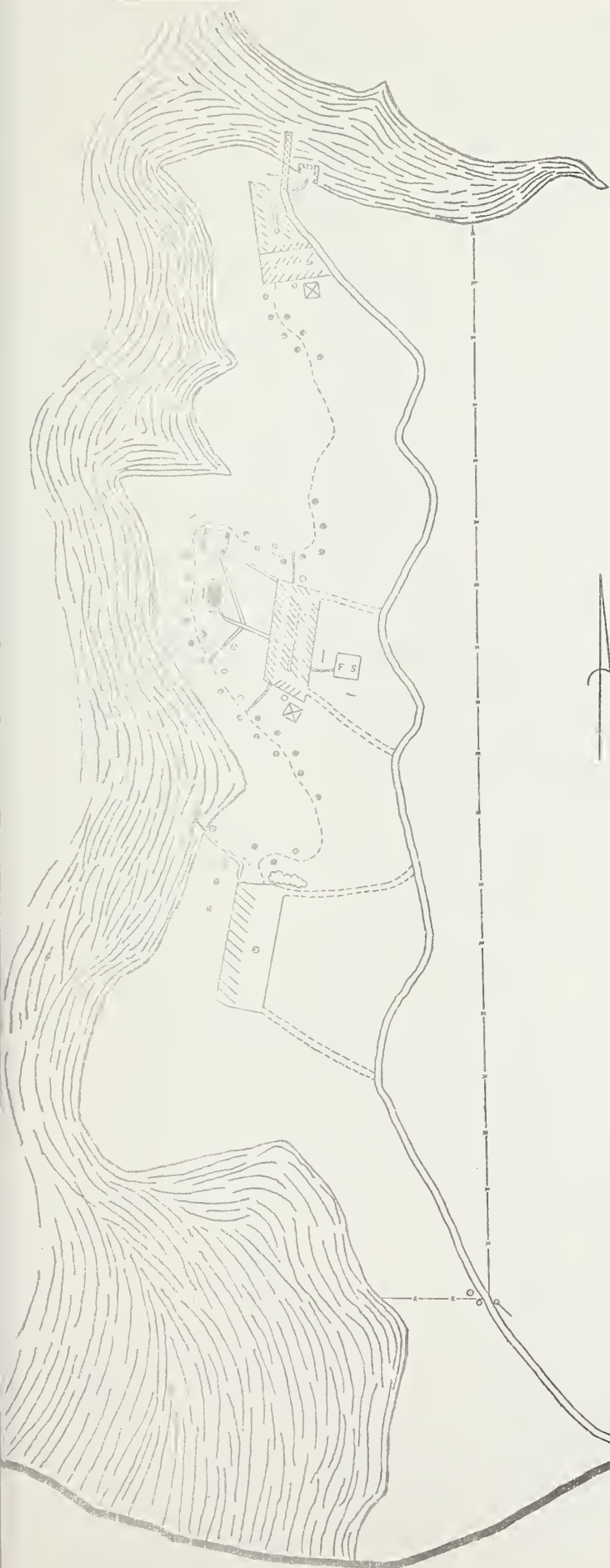
0 1/2 1 2 Miles
Approximate scale 1:42,240 (1.5 inches equal 1 mile)

Base compiled from USGS 7.5 minute quadrangle sheets.

DATA DEVELOPED BY ALABAMA
WATERSHED PLANNING STAFF.

DEC. 1975 4-R-35304

REV. DEC. 1975 BASE 4-R-27029



LEGEND

	GRAVEL ROAD (EXISTING)
	DOUBLE LANE PAVED ROAD (PROPOSED)
	SINGLE LANE PAVED ROAD (PROPOSED)
	GROUP SHELTER WITH 10 TABLES
	PLAY AREA WITH PLAYGROUND EQUIPMENT
	FIELD SPORTS AREA
	PAVED PARKING
	PAVED WALK
	TRAILS
	GATE
	PICNIC UNIT
	SECURITY LIGHT
	COMFORT STATION
	WOODEN BENCH
	FENCE
	BOAT RAMP
	BOAT DOCK WITH SLIPS
	SHRUBBERY

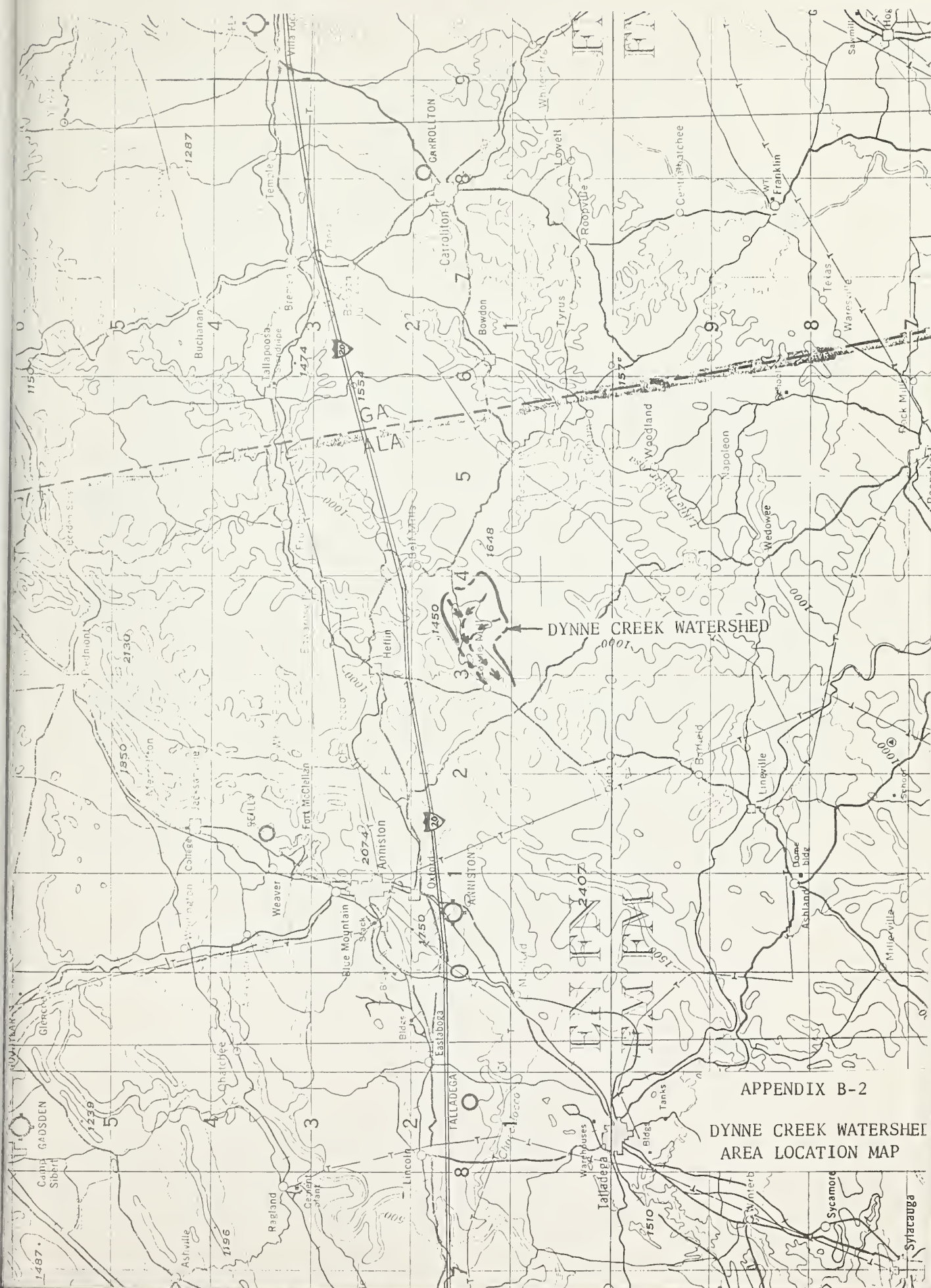
NOTE: SYMBOLS FOR FACILITIES NOT TO SCALE

NOTE: LAYOUT PLAN IS INTENDED TO SHOW SCOPE OF PROPOSED FACILITIES ONLY. FINAL LAYOUT TO BE ARRANGED TO FIT FIELD CONDITIONS.



APPENDIX B-1

DYNNE CREEK WATERSHED SITE 4 RECREATION DEVELOPMENT MAP



APPENDIX B-2

DYNE CREEK WATERSHED
AREA LOCATION MAP

APPENDIX C

Letters of comment received on the draft plan and
environmental impact statement.



UNITED STATES DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20250

OFFICE OF EQUAL OPPORTUNITY

MAR 4 1977

IN REPLY 8140 Supplement 8

REFER TO:

SUBJECT: Draft Watershed Plan and the Draft Environmental Impact
Statement for the Dynne Creek Watershed, Alabama

TO: W. B. Lingle
State Conservationist

THRU: Verne M. Bathurst, Deputy Administrator
for Management, Soil Conservation Service

The Draft Watershed Plan and the Draft Environmental Impact Statement (EIS) for the Dynne Creek Watershed were reviewed by this office for the purpose of assessing the socio-economic impact of the project on minority groups living in or near the affected area.

In the Economic and Social Section of the EIS, page 44, there was no specific mention of the effects that the project would have on the minority population living in the affected area (5.8 percent in Cleburne County).

In accordance with Soil Conservation Service Guidelines for preparing environmental impact statements (see Federal Register, Vol. 39, No. 107, June 3, 1974), it is recommended that in the final draft you include an assessment of the social and economic impacts of impending changes in the watershed on the minority population.



JAMES FRAZIER
Director





DEPARTMENT OF THE ARMY

MOBILE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 2288
MOBILE, ALABAMA 36628

REPLY TO
ATTENTION OF:

SAMPD-F

2 February 1977

Mr. W. B. Lingle
State Conservationist
U. S. Department of Agriculture
Soil Conservation Service
P. O. Box 311
Auburn, Alabama 36830

Dear Mr. Lingle:

This is in response to your letter of 19 January 1977 which inclosed a preliminary draft copy of a plan/environmental impact statement for the proposed Dynne Creek Watershed project.

The plan and statement have been reviewed as you requested and our comments are inclosed.

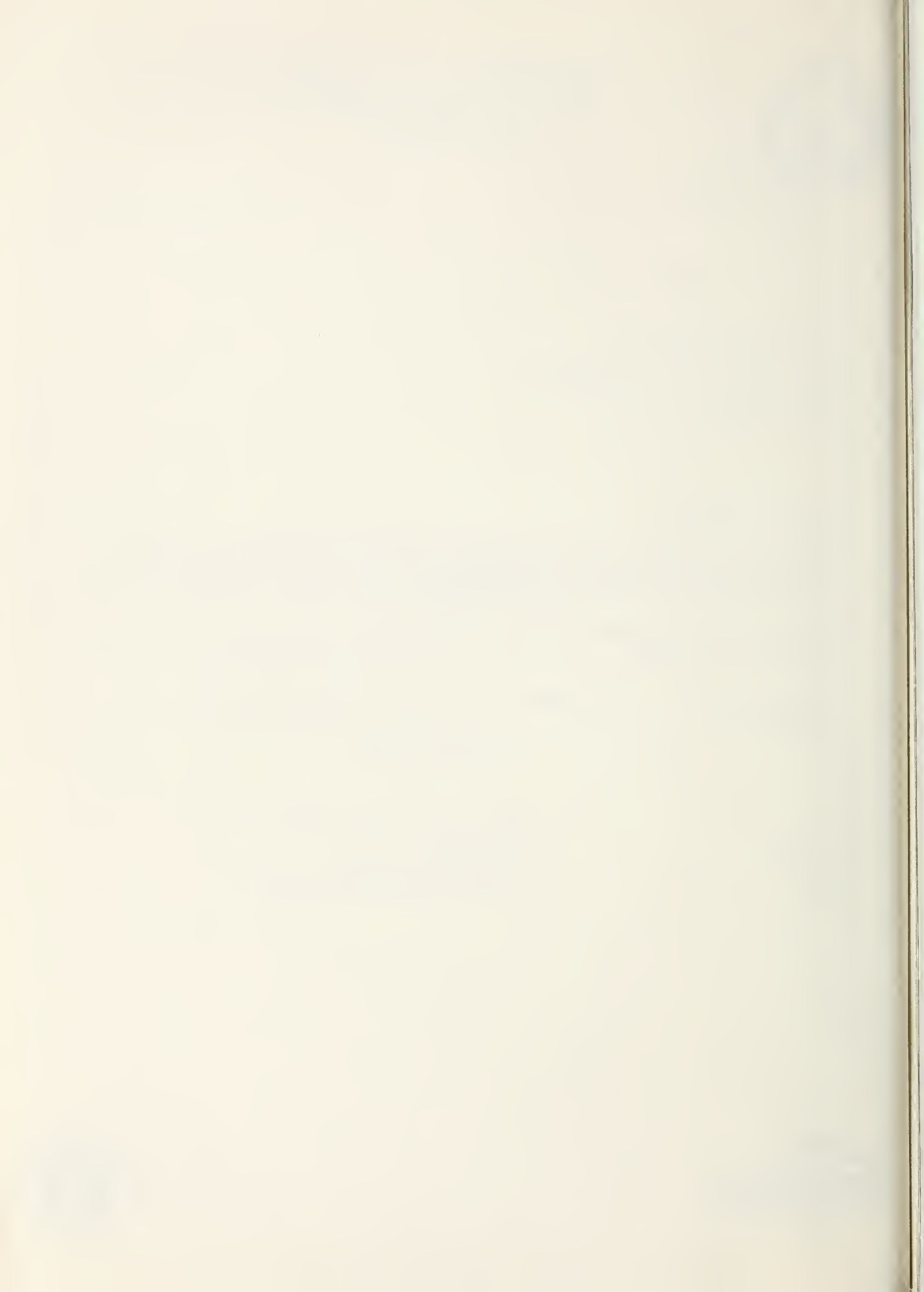
The opportunity to participate with you in this planning effort is appreciated.

Sincerely yours,

for LAWRENCE R. GREEN
Chief, Planning Division

1 Incl
as





COMMENTS ON PROPOSED DYNNE CREEK WATERSHED PROJECT
DRAFT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

1. There are several areas within the plan draft in the section entitled "ECONOMIC BENEFITS" where more detail of the derivations could add substantially to reader comprehension of the benefit appraisal. Some examples include the incorporation or discussion of flood frequency data derived in estimating natural and improved conditions, acres flooded, unit damage per acre, and a typical computation of a reduced damage type benefit. Through the inclusion of such data, the relationship between damage reduction benefits to crops and pasture and agricultural fixed improvements and the lands and improvements affected or protected could be readily seen. Benefits for future land use changes and the intensification of use of protected lands could also be identified and displayed to assist the reader's comprehension of plan effects.

2. General comments on the draft E.I.S. are as follows:

- a. Scientific names should be underlined.
- b. Rare and endangered species should be discussed.
- c. The statement should include;
 - (1) Probable adverse environmental effects that cannot be avoided.
 - (2) Interests and considerations of Federal policy which are thought to offset the adverse environmental effects of the proposed action.
- d. It appears that the first paragraph under the heading "ANIMAL RESOURCES" may belong under the earlier discussion titled "FOREST".

3. Under the discussion of "ECONOMIC AND SOCIAL PROBLEMS", it is noted that single sheet copies of the "1974 Agricultural Census", by county, became available in October 1976. Use of the "Alabama Agricultural Statistics" could assist in isolating economic problems in the County.



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

REGION IV
50 7TH STREET N.E.
ATLANTA, GEORGIA 30323

April 7, 1977

OFFICE OF THE
REGIONAL DIRECTOR

HEW-754-77

W.B. Lingle
State Conservationist
U.S. Department of Agriculture
Soil Conservation Service
P.O. Box 311
Auburn, Alabama 36830

Subject: Draft Watershed Plan and Environmental Impact Statement
Dyenne Creek Watershed, Cleburne County, Alabama

Dear Mr. Lingle:

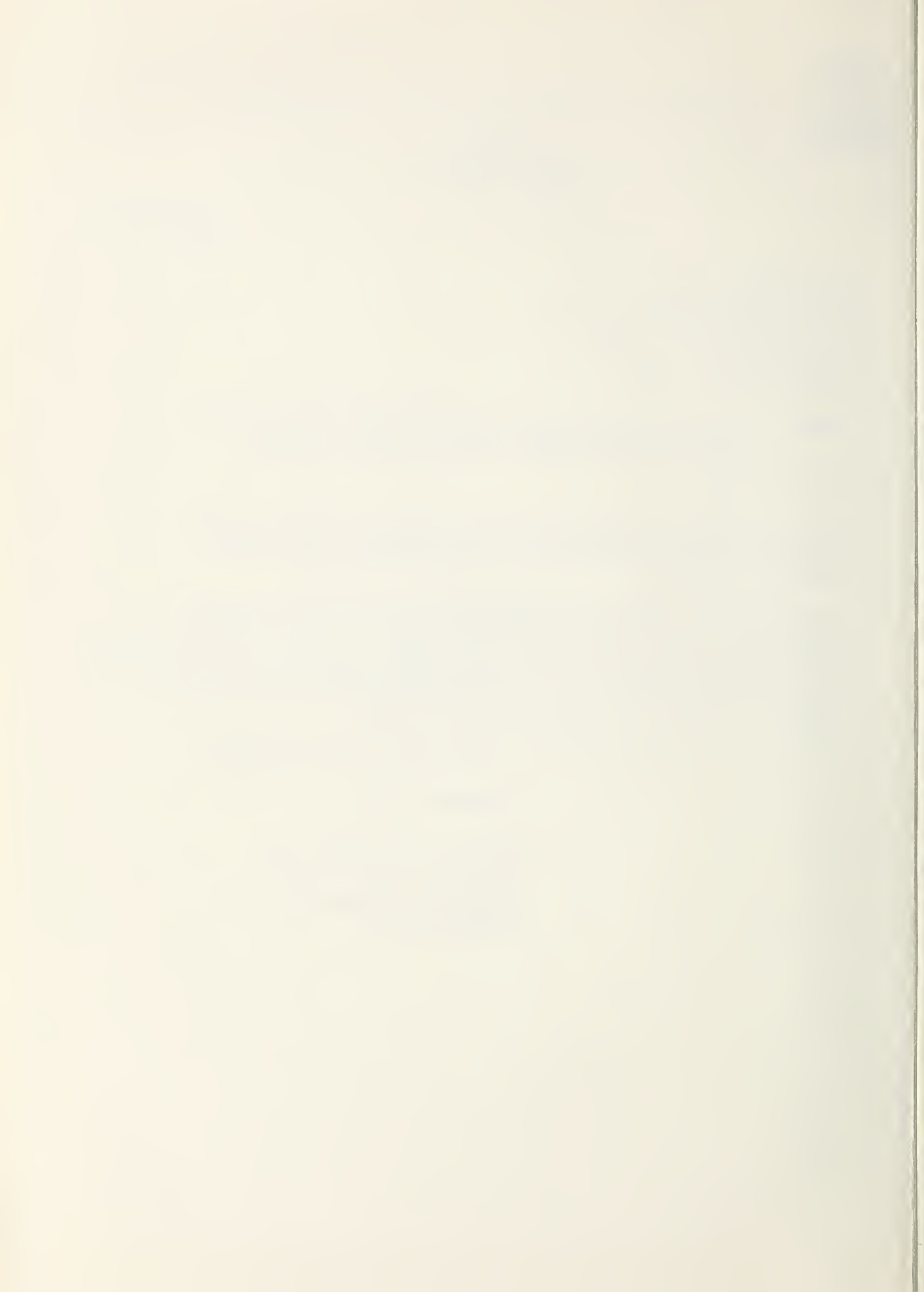
We have reviewed the subject draft Environmental Impact Statement and find that the responsibilities of the Department has not been completely addressed.

A comprehensive review by this Department could be more readily accomplished if the final Environmental Impact Statement contains the present availability of health, educational and infrastructure facilities for the present population. These statistics should be projected for the anticipated increase in population and the remedial action necessary to compensate for these increases (DEIS, pg. E-44).

We appreciate the opportunity to review your impact statement.

Sincerely yours,

Philip P. Sayre
Regional Environmental Officer
DHEW-Region IV





DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
AREA OFFICE
DANIEL BUILDING, 15 SOUTH 20TH. STREET, BIRMINGHAM, ALABAMA 35233

February 9, 1977

REGION IV
Pershing Point Plaza
1371 Peachtree Street, N.E.
Atlanta, Georgia 30309

IN REPLY REFER TO:

4.2SS

Mr. W. B. Lingle
State Conservationist
U. S. Department of Agriculture
P. O. Box 311
Auburn, Alabama 37830

Dear Mr. Lingle:


Subject: Dynne Creek Water Shed
Cleburne County, Alabama

We are pleased to acknowledge receipt of the above-referenced request for HUD comments under the requirements of the National Environmental Policy Act of 1969 (PL 91-109).

We have reviewed the information submitted along with your referral, and to the extent of our available staff resources have investigated the environmental impact, adverse effects, alternatives and the commitment of resources which the project involves. From the information available to us we find no effect which this particular project will have upon HUD related activities.

Your interest in this matter is appreciated.

Sincerely,



Robert E. Lunsford
Environmental Officer

U.S. DEPT. OF AGR.

AMERICAN B.



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

PEP ER-77/228

APR 14 1977

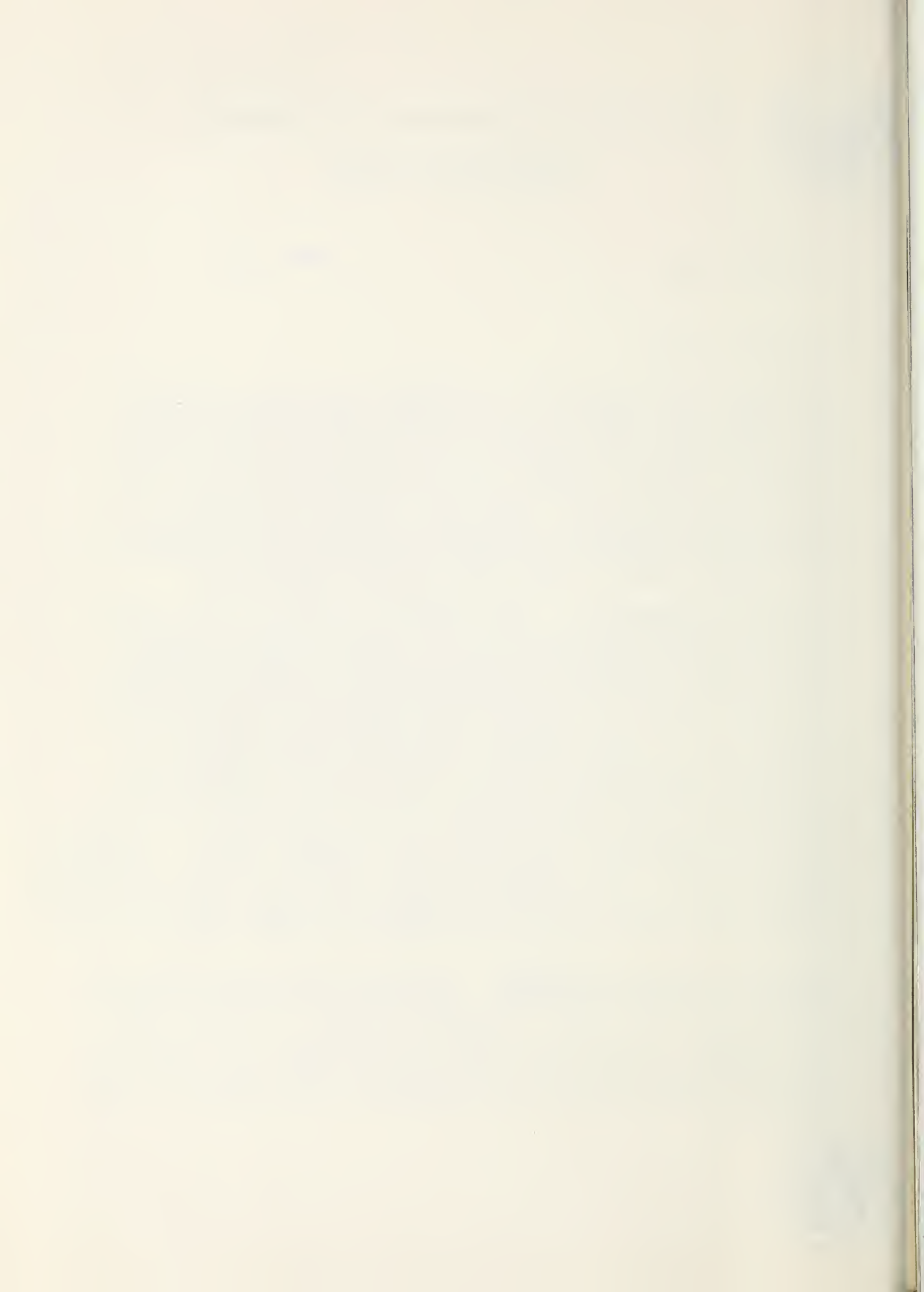
Dear Mr. Lingle:

Thank you for the letter of February 23, 1977, requesting our views and comments on the draft environmental statement for Watershed Protection, Flood Prevention, Municipal and Industrial Water Supply, and Recreation, Dynne Creek, Cleburne County, Alabama. Our review indicates the proposal as described would have no significant adverse effect upon fish and wildlife resources, mineral production or geological conditions. However, we have noticed several areas of discussion pertaining to estimated recreation visits and related benefits that need further explanation.

Page E-1, Paragraph 1 - The statement indicates that there will be 25,000 annual recreation visits to the proposed park site at structure No. 4. We believe that derivation of this figure by blanket application of a 10,000-population figure to Alabama's Statewide Comprehensive Outdoor Recreation Plan activity occasions per capita can be misleading (page E-35). A more accurate estimate would include an analysis and disaggregation of the population by age and related socioeconomic factors as well as the influence of competing recreational resources such as the sports fields in Heflin, school playgrounds, and the 10,660-acre R. L. Harris Reservoir now under construction in Randolph County. Furthermore, the SCORP lists some 300 sports fields located in planning district No. 4. We therefore believe that the final EIS should explore the possibility of a surplus of recreational facilities in the area and reevaluate the projected annual visits.

Page E-56, List of Benefits - Average annual recreation benefits are listed at \$50,000. Dividing the \$50,000 benefits by the estimated 25,000 visitation amounts to \$2 per visit, an estimate that falls in the upper bracket of the \$0.75 to \$2.25 range provided for under the Principles and Standards. The analytical approach and methodology utilized in arriving at this estimate should be portrayed in the appendix to the statement.

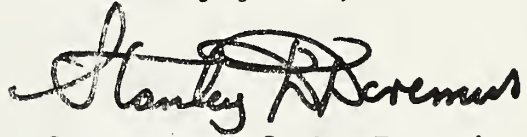




The statement could be improved with the addition of a smaller scale map or maps to include State and Federal roads, and cities and towns in at least the adjoining counties. The recreation market area and planning data could thus be graphically portrayed so that the statement could be more readily understood by those not thoroughly familiar with the specific watershed development sites.

We hope these comments will be of assistance to you.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Stanley R. Doremus". The signature is fluid and cursive, with the first name "Stanley" being more prominent.

Deputy Assistant

Secretary of the Interior

Mr. W. B. Lingle
State Conservationist
Soil Conservation Service
Department of Agriculture
Post Office Box 311
Auburn, Alabama 36830





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30308

April 19, 1977

Mr. W. B. Lingle
State Conservationist
United States Department of Agriculture
Soil Conservation Service
P. O. Box 311
Auburn, Alabama 36830

Dear Mr. Lingle:

We have reviewed the combined Draft Watershed Plan and Draft Environmental Impact Statement for the Dynne Creek Watershed in Cleburne County, Alabama.

A good account is given of present water quality values and the evaluated effects of the project on water quality. We believe the Draft EIS is adequate as presented and have rated the action LO (Lack of Objections) and the Impact Statement Category 1 (Adequate).

Thank you for the opportunity to review and comment on these documents. If we can be of further service, please let us know.

Sincerely yours,

John E. Hagan, III

John E. Hagan, III
Chief, EIS Branch





March 1, 1977

WILLIAM J. BAXLEY
ATTORNEY GENERAL

GEORGE L. BECK
DEPUTY ATTORNEY GENERAL

L. B. SULLIVAN
EXECUTIVE ASSISTANT

WALTER S. TURNER
ASSISTANT ATTORNEY GENERAL

TOM CORK
CONFIDENTIAL ASSISTANT

JACK D. SHOWS
CHIEF INVESTIGATOR

Mr. Wayne Lingle
U.S. Department of Agriculture
Soil Conservation Services
Box 311
Auburn, Alabama

Re: EIS Dynne Creek

Dear Mr. Lingle:

Our Office has reviewed the draft EIS for Dynne Creek. We are pleased to note that the SCS will not be channelizing Dynne Creek. There are several areas that do pose some difficulties. One is that on page E-11 the SCS figured the useful life for dams 1, 3, and 4 at 100 years apiece. I believe that the Federal District Court for northern Alabama has previously held in the Blue-eyed Creek Case that the SCS could not use 100 years as the useful life of a project. Your useful life figure must be revised downward to accurately reflect an accurate useful life period.

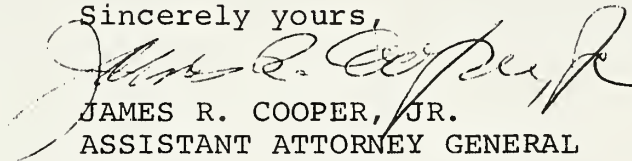
Another problem is that dams 1 and 3 are to be erected on private land. Public use will be restricted. P. E-12. There should be provisions for public use or they will become private fish ponds erected at public expense. The propriety of such actions is extremely questionable.

The final comment we have is that land treatment measures alone were not sufficiently treated in sufficient detail to give a reader enough data to evaluate that method. The EIS should correct that defect.

Mr. Wayne Lingle
Page Two
March 1, 1977

We are looking forward to hearing from you about our comments.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "James R. Cooper, Jr.", is written over the typed name. The signature is fluid and cursive, with a large initial "J" and a stylized "C".

JAMES R. COOPER, JR.
ASSISTANT ATTORNEY GENERAL

JRCjr:dpr



ALABAMA STATE SOIL AND WATER CONSERVATION COMMITTEE

ROOM 203 RICHARD BEARD BUILDING
1445 FEDERAL DRIVE
P. O. BOX 3336
MONTGOMERY, ALABAMA 36109

WILBUR B. NOLEN, JR.
EXECUTIVE SECRETARY

March 7, 1977

COMMITTEE MEMBERS

D HOLMES, JR.
TRICT SUPERVISOR

E HAMILTON
TRICT SUPERVISOR

E TRAYLOR
TRICT SUPERVISOR

P GRANT, JR.
TRICT SUPERVISOR

WEL SELLERS
TRICT SUPERVISOR

Y VANDIVER
TRICT SUPERVISOR

WARD W GREEN
ITE SUPERVISOR
NATIONAL AGRICULTURE

R DENNIS ROUSE
AN OF AGRICULTURE

ALPH R. JONES
ECTOR
TENSION SERVICE

Mr. W. B. Lingle, State Conservationist
Soil Conservation Service
P. O. Box 311
Auburn, Alabama 36830

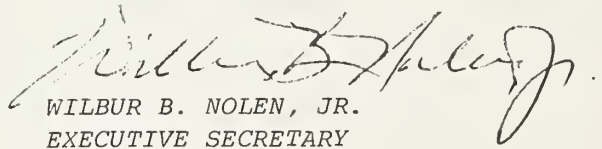
Dear Bill;

The State Soil and Water Conservation Committee has reviewed the "combined draft plan and draft environmental impact statement" for the "Dynne Creek Watershed", located in Cleburne County, Alabama, and finds same to be in proper order.

The State Committee unanimously concurs with the local sponsors in their view that this proposed development is definitely needed and, furthermore, that it will enhance rather than degrade the project area environment.

Anything that you or the Soil Conservation Service Administrator can do to expedite this proposal will be greatly appreciated, by both the sponsors and the State Committee.

Very truly yours,


WILBUR B. NOLEN, JR.
EXECUTIVE SECRETARY

WBN:msh

Encl.

CH
CAR
WAY

V.
CHA
WY

Se
LILL
WAY

In
WELL
FED

Mr
St
U.
So
P.
Au

De
Or
Re
Dy
th
wi
th
th

We
fig
-S
-S
-S
-S
-S

A
15
we
re

Cal



EAST ALABAMA REGIONAL PLANNING AND DEVELOPMENT COMMISSION

SAM F REYNOLDS
Executive Director

1001 LEIGHTON AVE
P O BOX 2186
ANNISTON, ALABAMA 36202
PHONE (205) 237-6741

Chairman
CARROLL L WATSON, JR.
MAYOR, LINCOLN

Vice Chairman
CHARLES OSBORNE
MAYOR, TALLADEGA

Secretary
LILLIAN WHITE
MAYOR, CENTRE

Treasurer
MELBA BARNES
PROBATE JUDGE TALLAPOOSA COUNTY

April 21, 1977

Mr. W. B. Lingle
State Conservationist
U.S.D.A.
Soil Conservation Service
P. O. Box 311
Auburn, Alabama 36830

Dear Mr. Lingle:

On Thursday, April 14, 1977, representatives from our staff met at your office in Auburn with Mr. Ray Swicegood and Mr. Ken Cookson to discuss the draft Environmental Impact Statement for the Dynne Creek Watershed Project. At this meeting several of our questions regarding the adequacy of the draft were answered much to our satisfaction. We sincerely appreciate the time your staff took with us and their eagerness to help us better understand SCS practices. Pursuant to that meeting, the A-95 Committee of the East Alabama Regional Planning and Development Commission offers the following comments and suggestions for your consideration.

We would suggest that a source reference and/or methodology be supplied with the following figures:

- \$24,260 estimated average annual floodwater, sediment, erosion, and indirect damage
- \$61,700 average annual benefit for M&I water
- \$50,000 average annual benefit for recreation
- \$11,700 average annual benefit for changed land use
- \$12,900 average annual benefit for intensified land use

According to the Alabama State Outdoor Recreation Plan, there are 37 recreational sites within a 15-mile radius of the project which could possibly be providing similar facilities. In view of this, we would suggest some justification be shown for claiming 25,000 recreation visits annually to the recreation area at FRS 4.

M
A
P

If
ca
P
st
m

F
sc
e

W
w
re

b

Mr. W. B. Lingle

April 21, 1977

Page 2

If it is within the scope of SCS's economic analysis, we would suggest a single table summarizing all costs to be borne by the co-sponsors. This should include a reasonable rate of interest for any portion of the project installation costs which the co-sponsors would have to finance over time. It should also include annually incurred expenses such as administration and operation and maintenance.

Finally, we would suggest a more in-depth presentation of alternatives. As written, the alternatives section of the draft does not adequately illustrate the time and effort spent in formulating and evaluating alternatives to the proposed project.

We feel that if these comments are addressed, the final E.I.S. will be a satisfactory document with which to evaluate the Dynne Creek Watershed Project. We sincerely appreciate the opportunity to review the draft, and we hereby request a copy of the final statement for our further consideration.

Sincerely,

A handwritten signature in dark ink, appearing to read "Kirk Jones", followed by a period.

Kirk Jones
Chairman, A-95 Committee

blp



GEOLOGICAL SURVEY OF ALABAMA

STATE OIL AND GAS BOARD

Serving Alabama Since 1848

MAILING ADDRESS

P. O. Drawer 6
Tombigbee, AL 36687
Phone AC 206-492541

February 11, 1977

THOMAS J. JOINER
ACTING
STATE GEOLOGIST
AND
OIL AND GAS SUPERVISOR

Mr. W. L. Lingle
State Conservationist
United States Department of Agriculture
Soil Conservation Service
P. O. Box 211
Auburn, Alabama 36830

Dear Bill,

I received the preliminary environmental impact statement on the
Dynn Creek Watershed project. Several people on our staff have read it and
made the following comments:

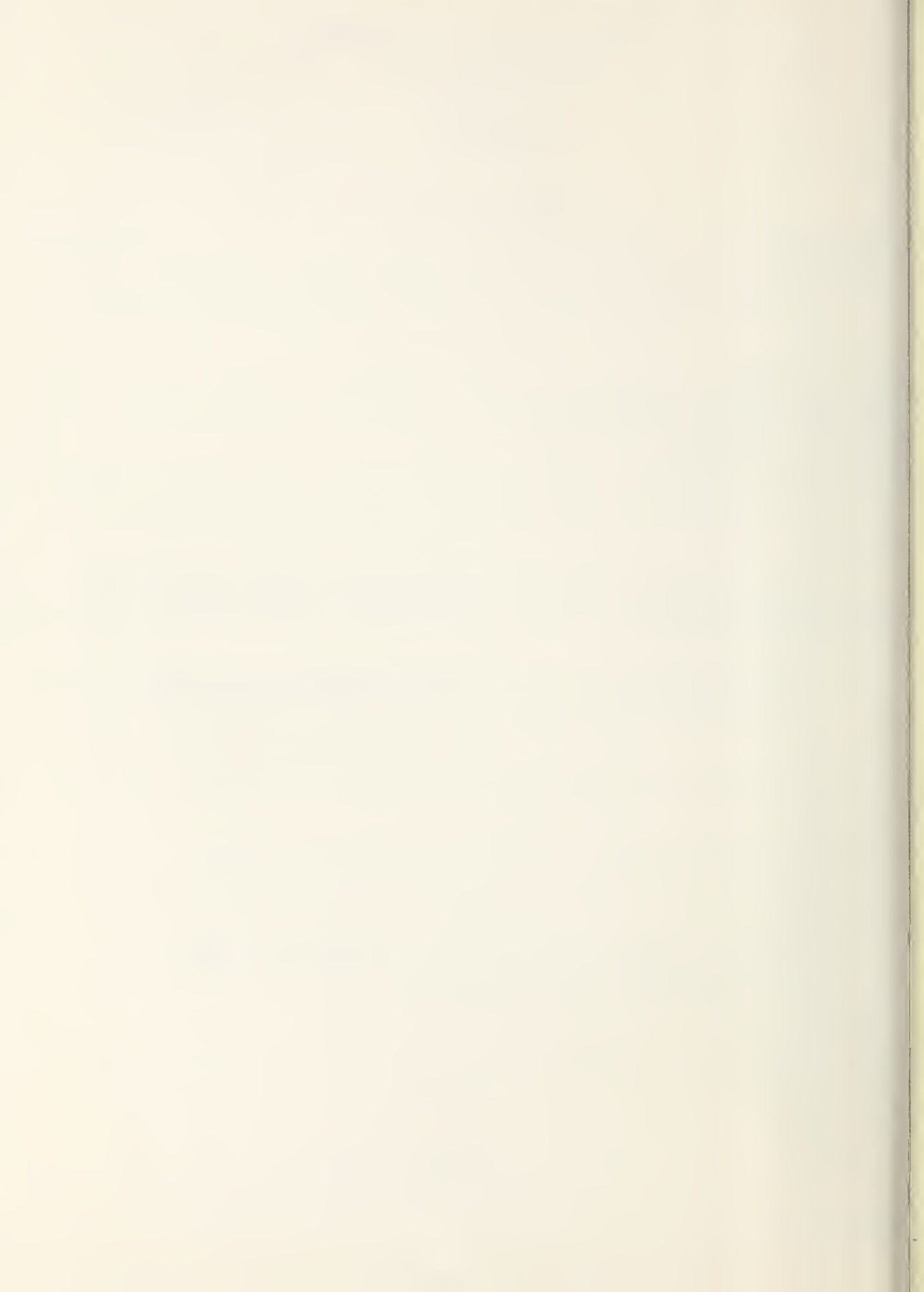
1. There was no listing of the number of plants and animals in the watershed.
It is important to have this data to determine if there would be any
impact on the resources.
2. There is no list of the number of plants and animals found in the area.
This is important to have for the same reason.
3. The section on the general and water resources is sketchy.
4. The area has not been surveyed for possible important fossil sites.
5. Of the total of 7,942,730 sq. ft. of the project over half will be spent
on Dam #1 792,000 sq. ft. and recreational facilities (3292,000). Their
role in watershed protection is very limited.

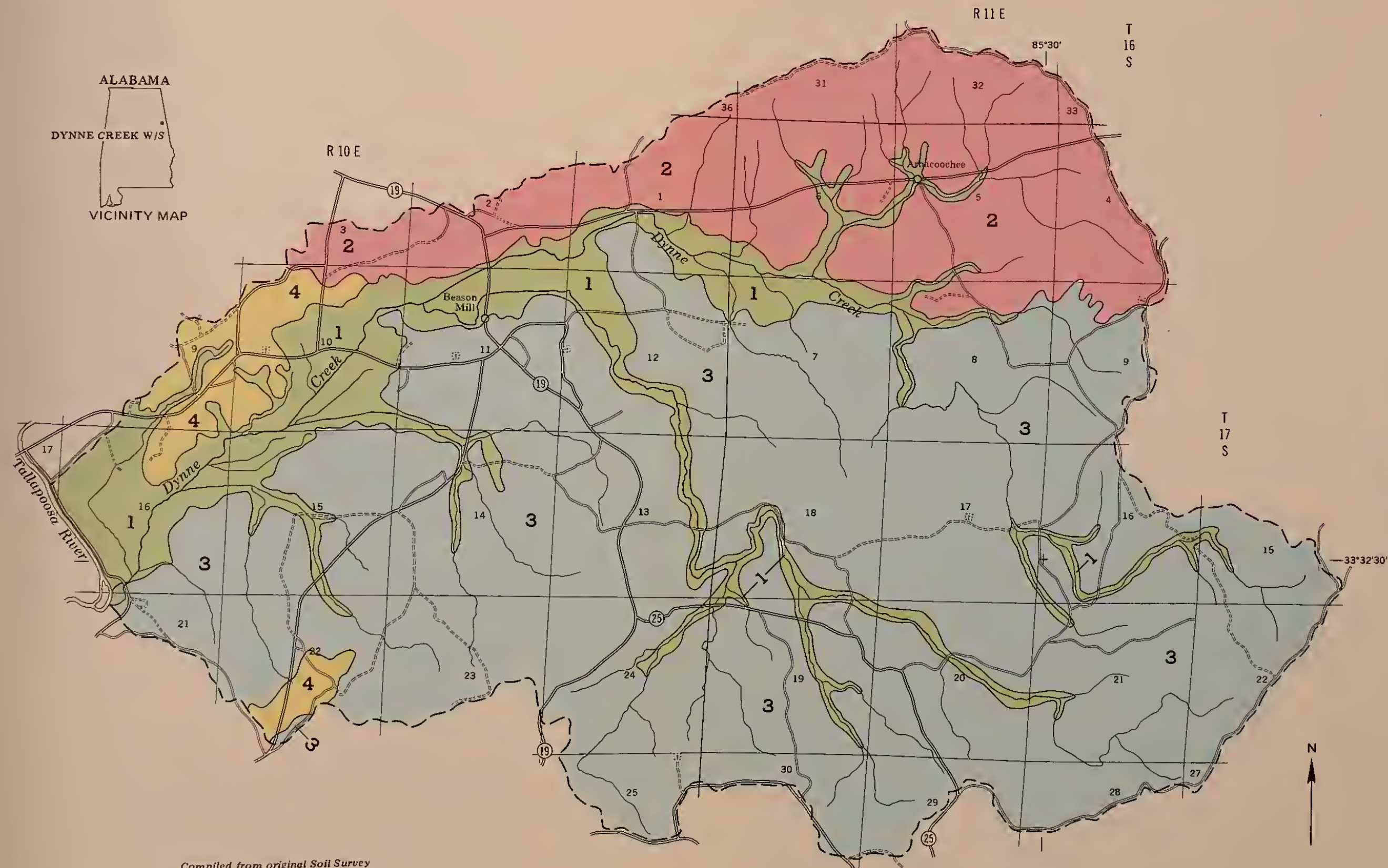
If we can be of further assistance, please advise.

Sincerely,

Thomas J. Joiner
Acting State Geologist

TJJ:RLC:ah





- BASE LEGEND**
- PRIMARY ROAD
 - SECONDARY ROAD
 - UNIMPROVED ROAD
 - COUNTY ROAD NUMBER
 - DRAINAGE
 - TOWN
 - CEMETERY
 - WATERSHED BOUNDARY

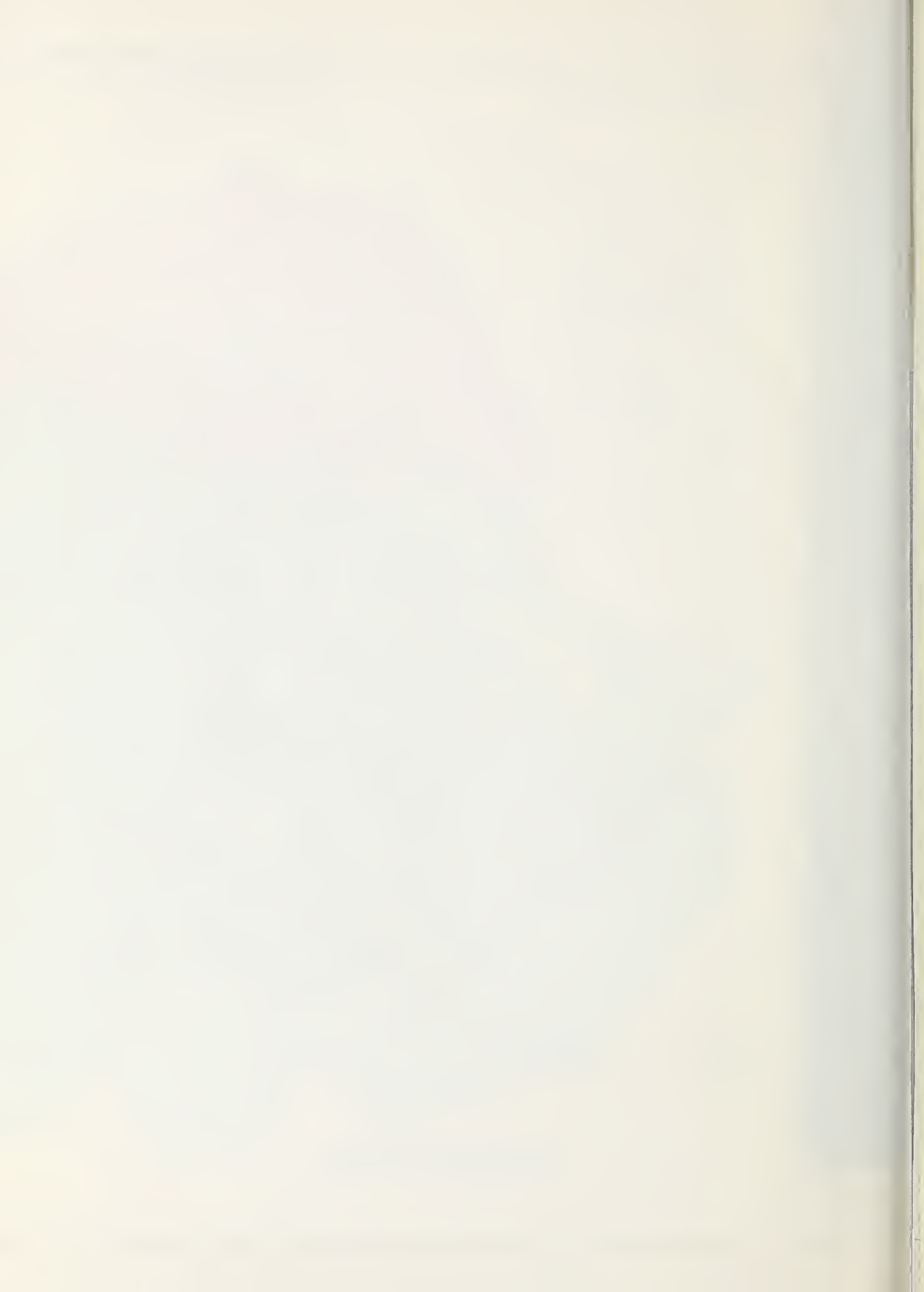
- SOIL ASSOCIATION LEGEND**
- 1 RIVERVIEW - STATE - SYLACAUGA ASSOCIATION
 - 2 TATUM - FRUITHURST - TALLAPOOSA ASSOCIATION
 - 3 MADISON - HIWASSEE - LOUISA ASSOCIATION
 - 4 WAYNESBORO - MECKLENBURG ASSOCIATION

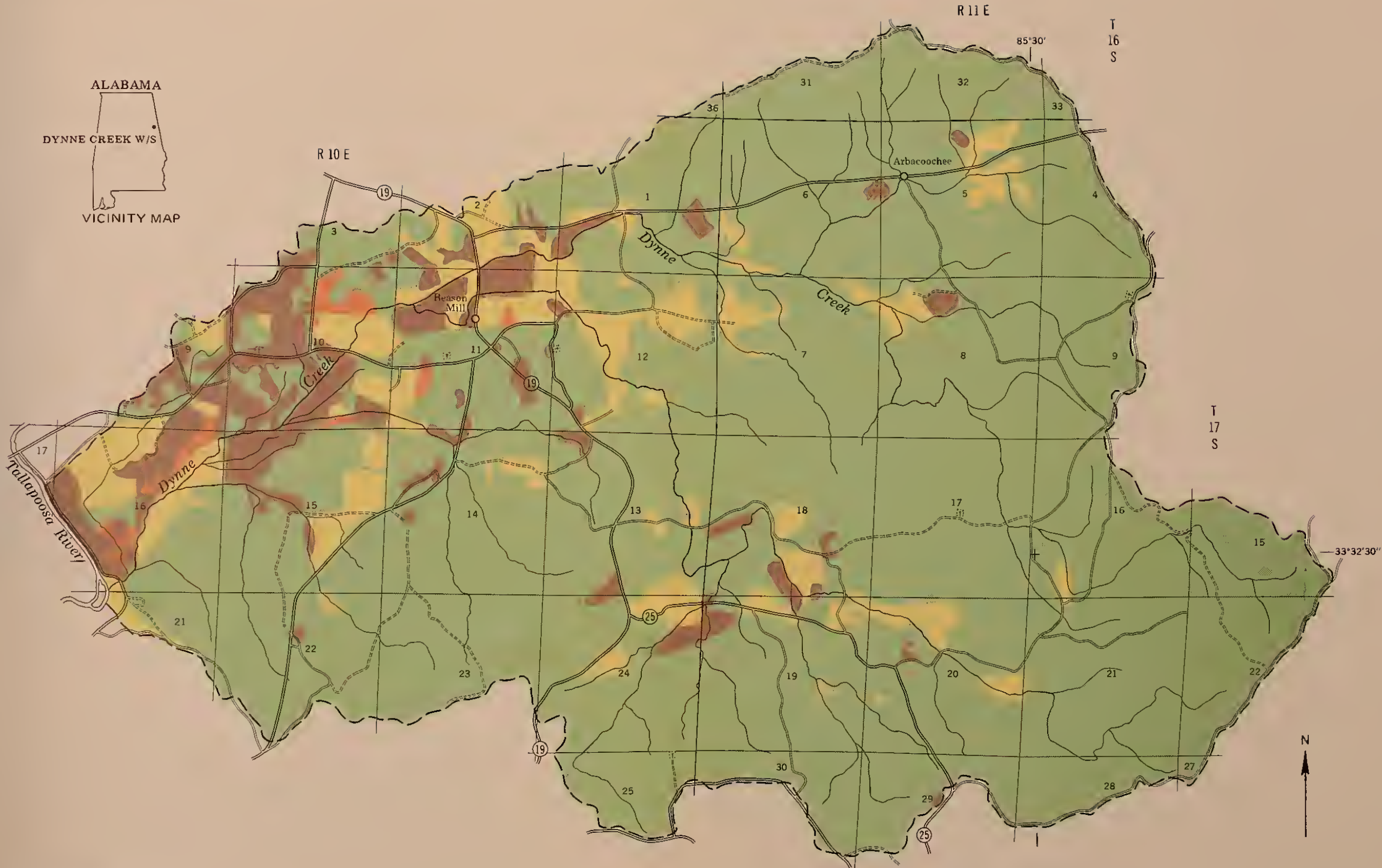
APPENDIX D
SOIL ASSOCIATION MAP
DYNNE CREEK WATERSHED
CLEBURNE COUNTY, ALABAMA

0 1/2 1 2 Miles
Approximate scale 1:42,240 (1.5 inches equal 1 mile)

Base compiled from USGS 7.5 minute quadrangle sheets.

Compiled from original Soil Survey
Field Sheets of Cleburne County Soil
Survey (unpublished); 1966 photography.





- BASE LEGEND
- PRIMARY ROAD
 - SECONDARY ROAD
 - UNIMPROVED ROAD
 - COUNTY ROAD NUMBER
 - DRAINAGE
 - TOWN
 - CEMETERY
 - WATERSHED BOUNDARY

- LAND USE LEGEND
- FOREST LAND
 - IDLE LAND
 - PASTURELAND
 - CROPLAND

APPENDIX E
LAND USE MAP
DYNNE CREEK WATERSHED
CLEBURNE COUNTY, ALABAMA

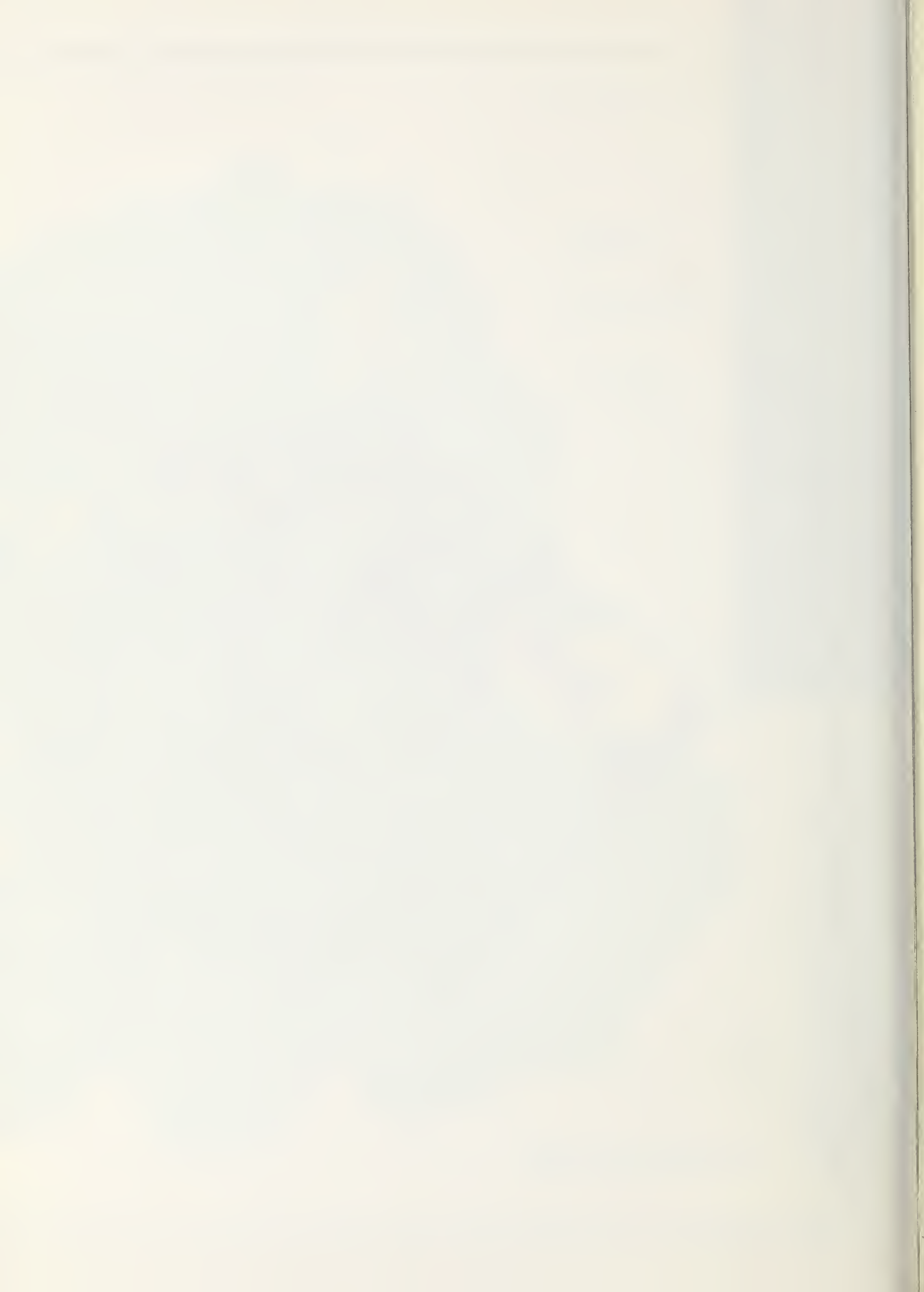
0 1/2 1 2 Miles
Approximate scale 1:42,240 (1.5 inches equal 1 mile)

Base compiled from USGS 7.5 minute quadrangle sheets.

DATA DEVELOPED BY ALABAMA
WATERSHED PLANNING STAFF.

DEC. 1975 4-R-35303

REV. DEC. 1975 BASE 4-R-27029





BASE LEGEND

- PRIMARY ROAD
- SECONDARY ROAD
- UNIMPROVED ROAD
- COUNTY ROAD NUMBER
- DRAINAGE
- TOWN
- CEMETERY
- WATERSHED BOUNDARY
- CRITICAL AREA LOCATIONS

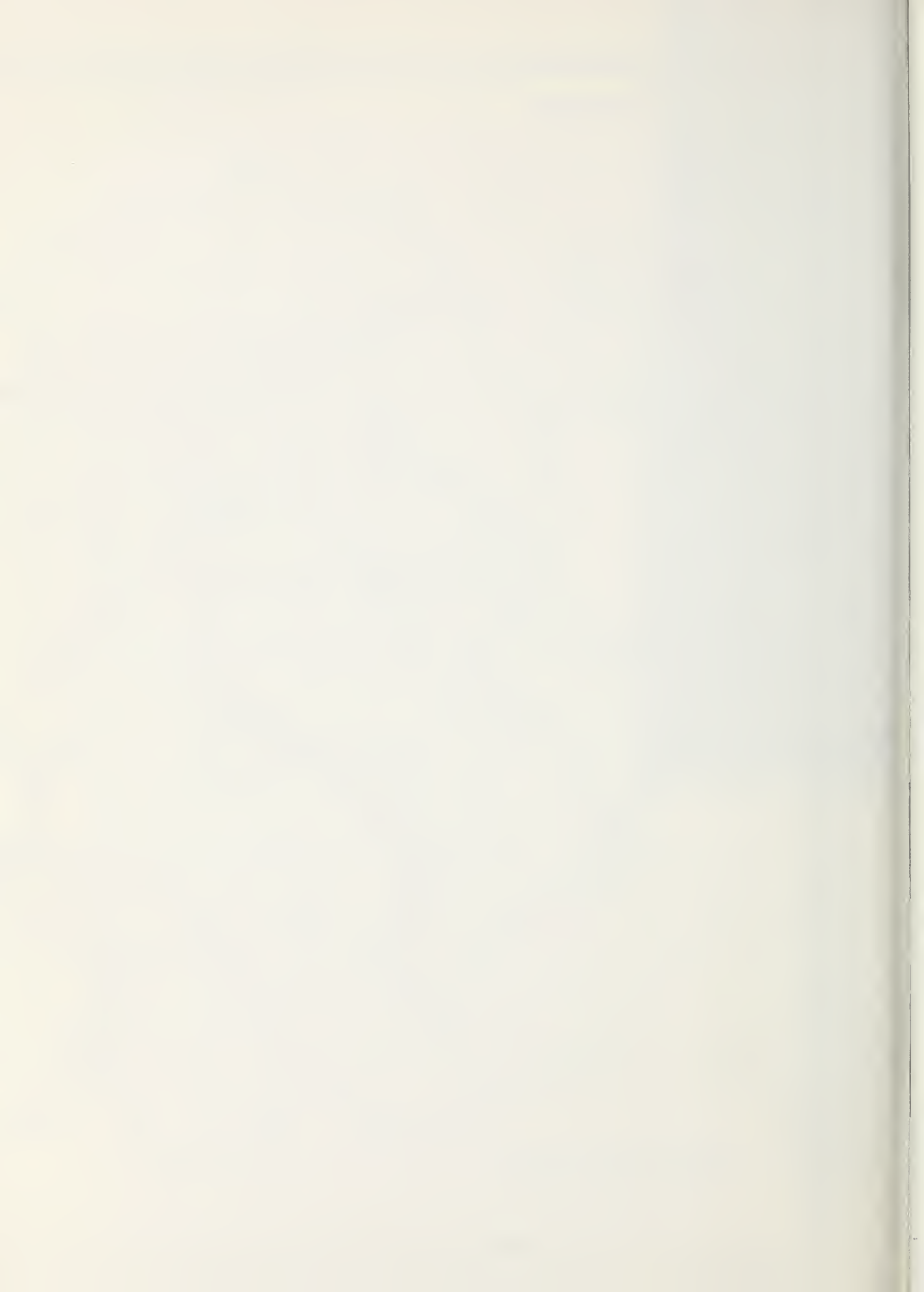
APPENDIX F
CRITICAL AREA MAP (ROADBANK)
DYNNE CREEK WATERSHED
CLEBURNE COUNTY, ALABAMA

0 1/2 1 2 Miles
Approximate scale 1:42,240 (1.5 inches equal 1 mile)

Base compiled from USGS 7.5 minute quadrangle sheets.

DEC. 1975 4-R-35302

DATA DEVELOPED BY ALABAMA
WATERSHED PLANNING STAFF.



HISTORICAL AND ARCHAEOLOGICAL SURVEY OF DYNNE CREEK WATERSHED,¹
CLEBURNE COUNTY, ALABAMA

by

C. Roger Nance

Introduction

During September and November, 1975, 14 man-days were spent conducting a surface survey of Dynne Creek along both banks from its confluence with the Tallapoosa River to its two primary headwater streams, and up these to the sites of two proposed earth fill dams (Structures 1 and 4, Dynne Creek). The flood pools behind each proposed structure were surveyed also.

In the course¹ of the survey, six archaeological sites were found and recorded. All of these sites are small, and seem to be only surface scatters or small concentrations limited to the plow zone. No site manifests the potential for test excavation or further evaluation, and the area surveyed is considered clear for construction and flooding.

This report consists of a description of the sites found and of artifacts collected from their surfaces. Site survey forms for each site are appended to this report. Site numbers are those assigned by Mound State Monument, and copies of these site survey forms are on file there.

The Sites

1 Cb 6: located on a dirt road behind Green's Chapel, Township 17 South, Range 10 East, Section 11, the site is on a small knoll above the Dynne Creek

flood plain. The base of an amorphous stemmed projectile point, another projectile point fragment, and 17 flakes were picked up from the dirt road surface. No artifacts were found in the adjacent woods, and small test holes in the road and woods revealed no depth to the site.

1 Cb 7: on the same knoll as 1 Cb 6, this site is directly behind Green's Chapel on the slope of the knoll opposite that facing Dynne Creek. The site consists of a small surface scatter badly disturbed by dirt road construction and the establishment of a modern cemetery behind the chapel. No artifacts were found in adjacent fields or in a small test hole dug just off the road. Collected material consists of 38 flakes, six bifaces, and six biface fragment

1 Cb 8: this site is located on the flood plain of the north fork of Dynne Creek, just west of the point where Highway 19 crosses the stream in Township 17 South, Range 10 East, Section 2. Several stone tools and a few flakes were found scattered over an area 50 feet in diameter. This appears to be a small camp site, probably with a few artifacts scattered through the plow zone. Collected artifacts consist of a crude stemmed projectile point base and a projectile point tip.

1 Cb 9: a small rock shelter was found near the confluence of Dynne Creek and the Tallapoosa River in Township 17 South, Range 10 East, Section 16. Located about 30 feet above the Dynne Creek flood plain, the shelter is on a rugged slope. It is considered too small (eight feet square) to be a worthwhile source of prehistoric information. A small test hole, however, did yield several flakes and a single sand tempered potsherd.

1 Cb 10: on a low knoll rising above the Dynne Creek flood plain, this site is also located on lower Dynne Creek, Township 17 South, Range 10 East, Section 1. At the time of the survey, the site area was covered with soybeans, and only a few flakes were recovered from a small area through surface collection.

1 Cb 11: this site was the only one found near one of the proposed flood pools. A few flakes were discovered on a wooded knoll above one of the Dynne Creek headwater streams in Township 17 South, Range 11 East, Section 6.

Recovered Artifacts

Ovoid Bifaces: the two artifacts in this category are crudely flaked, relatively thick bifaces and may have functioned as projectile points. They are ovoid and one-pointed in outline and roughly lenticular in cross section. Material for both as well as for all artifacts studied is vein quartz. Maximum dimensions: lengths, 5.4 and 3.6 cm; widths, 3.3 and 2.2 cm; thicknesses, 1.7 and .8 cm. Both artifacts were collected from 1 Cb 7.

Stemmed Bifaces: the three artifacts in this category are stemmed and may all have functioned as projectile points. One specimen from 1 Cb 7 is complete; it is a broad point with a contracting stem, and is well flaked considering the material. The other artifacts, from 1 Cb 6 and 1 Cb 8, are the bases of crudely flaked stemmed projectile points. The 1 Cb 8 point is amorphous. The artifact from 1 Cb 6 has definite shoulders and a broad square stem. Dimensions of the completed point are length, 4.2 cm; width, 2.5 cm; thickness, 1.0 cm.

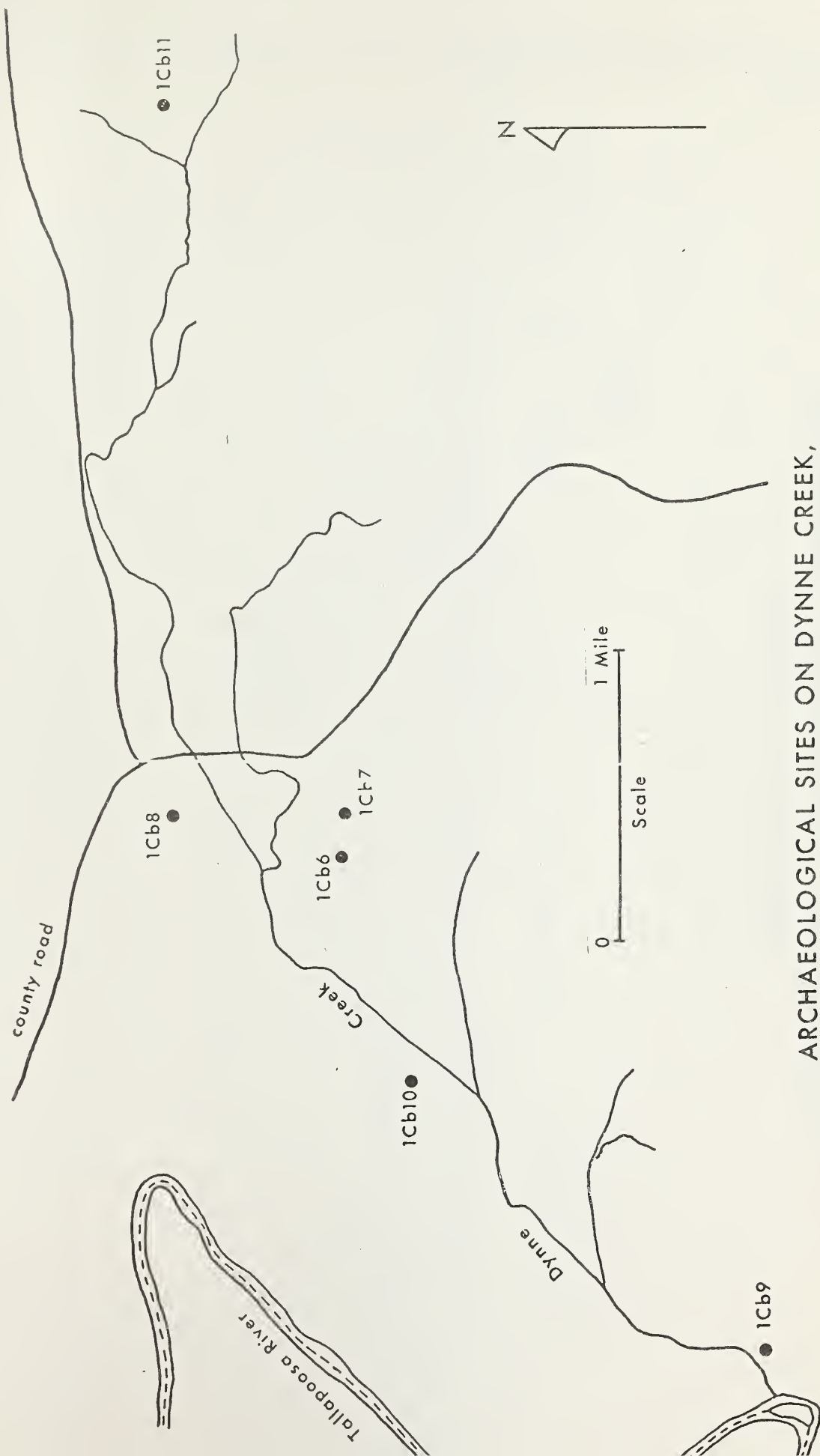
Biface Fragments: all are fragments of bifaces including two projectile point tips (sites 1 Cb 7 and 1 Cb 8), two fragments of ovoid bifaces (1 Cb 7), possibly the base of a stemmed projectile point (1 Cb 6), and four non-descript fragments (1 Cb 7). One of the projectile point tips (1 Cb 7) has been retouched across one long break surface edge, probably through use.

Potsherd: the potsherd (1 Cb 9) is plane, .5 cm thick, and is tempered with micaceous sand.

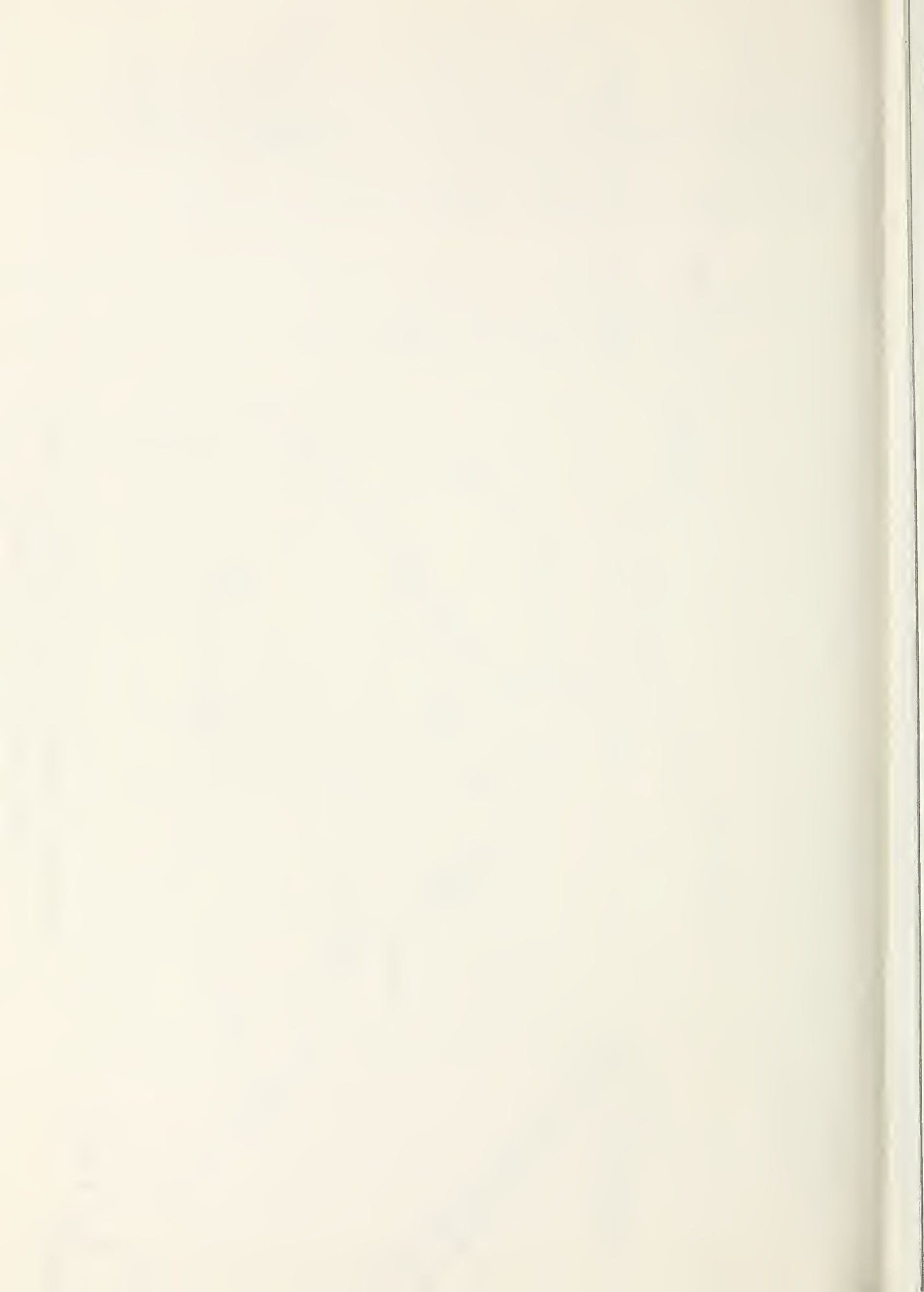
Conclusions

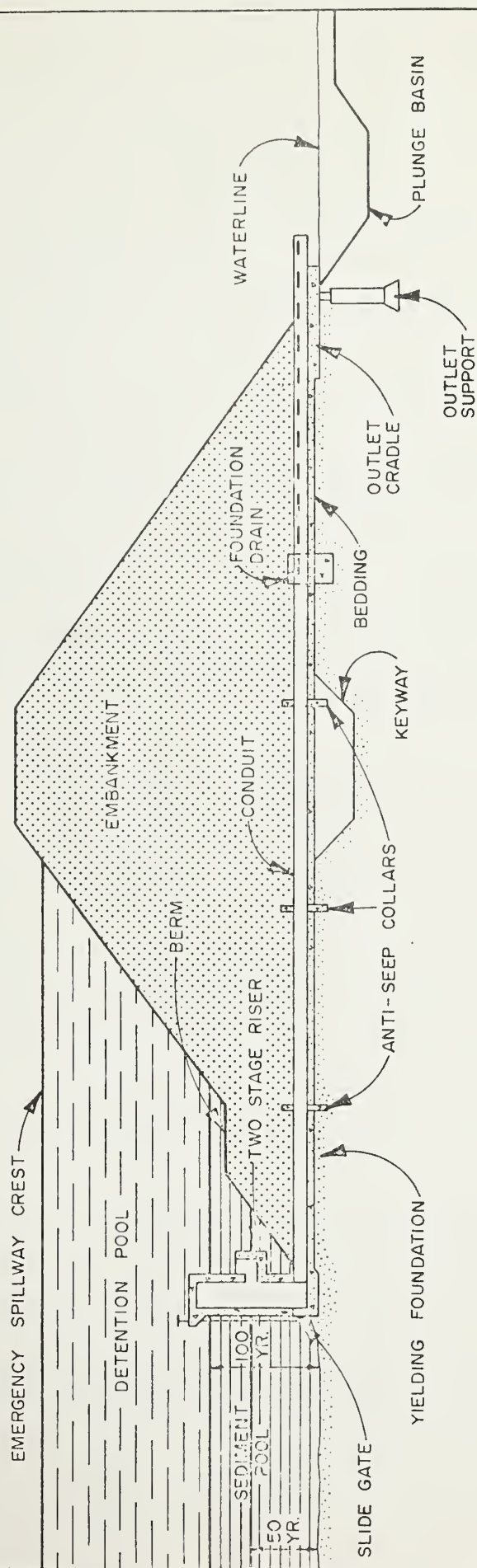
Obviously the collections are too small to attempt any kind of extra-area comparisons or prehistoric reconstructions. The sites all appear to be small, and possibly were hunting stations. They represent unknown cultures and prehistoric periods.

The proposed Dynne Creek Watershed project as planned will have no adverse affects on significant historical and archaeological sites.



ARCHAEOLOGICAL SITES ON DYNNE CREEK,
CLEBURNE COUNTY, ALABAMA





SECTION OF A TYPICAL
FLOODWATER RETARDING STRUCTURE
(Two Stage Riser)



APPENDIX I

Literature Cited

- 1/ USDA. Soil Conservation Service. National Handbook of Conservation Practices. July, 1971.
 - 2/ USDA. The Soil Conservation Service. SCS-CI-17. U. S. Government Printing Office. May, 1969.
 - 3/ U. S. Water Resources Council. Regional economic activity in the U. S. OBERS Projections. 1972.
 - 4/ Geological Survey of Alabama. Ground Water in the Paleozoic Rocks of Northern Alabama. Special Report No. 16. 1933.
 - 5/ Geological Survey of Alabama. Geology of Alabama. Special Report No. 14. 1926.
 - 6/ U. S. Department of Commerce. National Oceanic and Atmospheric Administration. Climatological Data.
 - 7/ Geological Survey of Alabama. Rocks and Minerals of Alabama. Circular 38. 1966.
 - 8/ Geological Survey of Alabama. Geophysical Prospecting for Ground Water in the Piedmont Area Alabama. Circular 42. 1967.
 - 9/ U. S. Department of Commerce. 1970 Census of Population. December, 1970.
 - 10/ Alabama Development Office. Baseline Projections. March, 1973.
 - 11/ U. S. Department of Commerce. Bureau of the Census. 1969 Census of Agriculture. Volume 1. County data.
 - 12/ Alabama State Employment Office. Gadsden, Alabama. January, 1976.
 - 13/ Society of American Foresters. Forest cover type of North America. Washington, D. C. 1967.
 - 14/ Oosting, Henry J. The study of plant communities. Second Edition, W. H. Freeman, San Francisco, California. 1956.
 - 15/ Billings, W. D. Plants and the ecosystem. Wadworth Publishing Co. Belmont, California. 1965.
 - 16/ Odum, Eugene P. Fundamentals of Ecology. Third edition. W. B. Sanders Co. Philadelphia, PA 1971.
- 101

- 17/ Diseker, E. G., E. C. Richardson, and B. H. Hendrickson. Roadbank erosion and its control in the Piedmont upland of Georgia. ARS 41-73. USDA - Agricultural Research Service. 1963.
- 18/ Elkins, C. B., Frank Lowry, and Jordan Langford. Alleviation of mechanical impedance to cotton rooting in a dense subsoil by use of sod. Agronomy Abs, Annual Meeting of the American Society of Agronomy. p. 122. 1973.
- 19/ Potash Institute of North America. Better Crops with Plant Food. p. 10-12. No. 2-1973.



R0000 903559



R0000 903559